REPORT RESUMES

ED 012 930 CG 000 156

COOPERATIVE PROGRAM FOR REHABILITATION OF THE DISABLED INDIAN. NAVAJO REHABILITATION PROJECT. FINAL REPORT.

BY- HENDERSON, NORMAN B. AND OTHERS
NORTHERN ARIZONA UNIV., FLAGSTAFF
REPORT NUMBER TR-1 PUB DATE JUN 67
EDRS PRICE MF-$~~0.75~~ HC-~~$5.16~~ ~~129P~~.
50 5.20 128

DESCRIPTORS- *VOCATIONAL REHABILITATION, *DEMONSTRATION PROJECTS, *PHYSICALLY HANDICAPPED, PROGRAM EVALUATION, *AMERICAN INDIANS, INTERAGENCY COORDINATION, FLAGSTAFF

THIS PROJECT (1) DEVELOPED AND EVALUATED REHABILITATION TECHNIQUES AND PROCEDURES, (2) DEMONSTRATED PROCEDURES FOR COORDINATING AND INVOLVING AGENCIES, AND (3) RESEARCHED DATA IN VOCATIONALLY REHABILITATING DISABLED NAVAJOS. OF 258 DISABLED NAVAJOS, 118 COMPLETED ENOUGH OF THE PROGRAM TO BE INCLUDED IN THE EVALUATION. THEY WERE HOUSED AND DINED ON THE NORTHERN ARIZONA UNIVERSITY CAMPUS. SOCIAL AND PLACEMENT SERVICES WERE PROVIDED. ENGLISH AS A SECOND LANGUAGE AND A TRADITIONAL CULTURE DIFFERING FROM WESTERN EUROPEAN LIMITED THE VALIDITY OF THE PSYCHOLOGICAL TESTS GIVEN. THE PROJECT WAS GENERALLY EFFECTIVE. OF THE 118 EVALUATED CLIENTS, 92 WERE PLACED IN TRAINING OR ON JOBS. IF DISABLED NAVAJOS ARE TO BE RECRUITED FOR REHABILITATION AND REMAIN IN THE PROGRAM, MUCH INDIVIDUAL CONTACT IS NEEDED WITH THE PROSPECTIVE CLIENT, HIS FAMILY, AND REFERRAL SOURCES. RECOMMENDATIONS FOR FUTURE CROSS-CULTURAL DEMONSTRATION PROJECTS ARE INCLUDED. (SK)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED012930

FINAL REPORT OF THE COOPERATIVE PROGRAM FOR REHABILITATION OF THE DISABLED INDIAN

Navajo Rehabilitation Project Technical Report No. 1

Norman B. Henderson
Project Director

Contributors
Vincent L. Avallone
Lawrence T. Casto
Alfred W. Cook
Carole Gaspari
Roger E. Kelly
Armando R. Sanchez

Northern Arizona University
Flagstaff, Arizona 86001

June, 1967

This investigation was supported, in part, by Research and Demonstration Grant No. RD-1213-G from the Vocational Rehabilitation Administration, Department of Health, Education, and Welfare, Washington, D. C., 20201.

CG 000 156

SIGNIFICANT FINDINGS FOR THE REHABILITATION WORKER

The primary purposes of the Project were: (1) to develop evaluation techniques and procedures; (2) to demonstrate procedures for coordinating and involving agencies; and (3) to research the data in vocationally rehabilitating disabled Navajos.

The sample of clients was probably representative of the total disabled Navajo population, but not representative of the total Navajo population. English as a second language and a traditional culture were important factors limiting the validity of psychological tests. While some of these difficulties can be overcome by applying effective clinical rather than purely acturial techniques, tests vary in meaning with degree of enculturation of the individual. Project service demands, also, interfered with gathering data.

The intake efforts of the Project indicated that if disabled Navajos were to be recruited for rehabilitation, much individual contact is needed with the prospective client, his family, and referral sources. Therefore, Northern Arizona needs a professional intake person to devote full time to individual contact, correspondence and follow-up efforts for the disabled members of different ethnic groups.

Counselors encountered difficulties in communication because English was a second language for most Navajo clients. Viewing the counselor as an authority figure often interfered with counseling rapport, and positive transference was difficult to establish. However, when cultural and personality differences were anticipated and accepted, and when stereotyping was avoided, constructive, warm, satisfying counseling relationships developed.

In selecting appropriate tests a "shotgun" approach was used. The general ability tests were selected by empirical considerations and through a factor analytic construct validity approach. The general ability battery was reduced to the Wechsler Adult Intelligence Scale, the Revised Army Beta and the Raven. In factor analyzing these three tests, four factors were found which contributed 99.99 per cent of the total variance. Navajo Rehabilitation clients scored significantly below the standardization population on all three tests. General ability test scores were related to actual number of years in school and school achievement as measured by the Iowa Tests of Basic Skills. The disabled Navajo client group did not do as well on these tests as a non-disabled Navajo population. The Navajo clients performed more slowly on dexterity tests. However, this slowness appears to be more a matter of experience and motivation than a lack of coordination.

As determined by the original purposes, the Navajo Rehabilitation Project was generally effective. If disabled Navajo clients who were classified as non-feasible are excluded, the vocational rehabilitation success percentage of between 65 and 70 compares favorably with the total Arizona and national averages. The WAIS Performance, the Revised Army Beta and the Raven Progressive Matrices effectively identified most disabled Navajos into general ability groups. A factor analytic study indicated that for the disabled Navajo population these tests showed some construct validity.

It now appears unrealistic to develop a test composed of items derived from the Navajo culture and language. Vocational rehabilitation services should be offered to disabled members of minority ethnic groups, but it is not the responsibility of a vocational rehabilitation counselor to dissuade traditional people from their chosen way of life.

Navajos are to some degree still victims of segregation, prejudice, unequal education, and job opportunities. Education and training is necessary to aleviate the general under-employment for Navajos and specifically affects the opportunities of disabled Navajos.

An Antabuse program was found effective for the treatment of several Navajo vocational rehabilitation clients with drinking problems and such a program probably could be useful with other alcoholic rehabilitation clients.

TABLE OF CONTENTS

Significant Findings for the Rehabilitation Worker a

Preface i

Chapter I - Setting and Background of the Problem 1

Navajo Reservation, People and Culture 1

Prevalence of Disability 14

Rehabilitation Efforts before the Navajo Rehabilitation Project 15

Development of the Navajo Rehabilitation Project 16

The Purpose and Rationale 16

Relevant Literature 17

The Setting 23

Related Organizations 24

Chapter II - The Navajo Rehabilitation Project Program 27

Major Project Functions 27

Development of the Navajo Rehabilitation Project Program 28

Evaluation Services and other Services Provided 28

Coordination of Efforts Among Agencies 38

Research Goals and Hypotheses 39

The Relationship of the Navajo Rehabilitation Project to Other Agencies 41

Chapter III - Methodology 45

Methods Used to Determine the Effectiveness of the Different Functions of the Navajo Rehabilitation Project 45

A Quantitative Description of the Population Served 46

Methodological Problems 49

Qualifications of Personnel Gathering Data 51

Methods of Data Analysis 52

Selecting Appropriate Tests 53

Meaningfulness of Data from Different Areas of Study 53

Criteria of Project Success 54

Testing Instruments Used 55

Chapter IV - Navajo Rehabilitation Project Outcomes and Effectiveness 57

The Anthropological Study of Navajo Disability 57

Conclusions Drawn From Intake Services 59

Counseling Navajo Indians 61

Results of Validating a Test Battery for Navajo Rehabilitation Clients 63

Results of the Educational Evaluation 71

Clients Observed by the Residence Guidance Supervisor 73

Results of Pre-Vocational Placement 77

The Results of Efforts to Facilitate and Coordinate Disabled Navajo Rehabilitation 85

Chapter V - Implications of the Navajo Rehabilitation Project on Future Rehabilitation Clients 87

Implications on Psychological Testing 87

"Thursting" People into a Foreign Environment 88

The Problem of Prejudice 89

The Lack of Education and Training for Jobs Among the Navajos 90

Implications on Drinking Problems 90

Chapter VI- Summary 93

Historical Background 93

Rehabilitation Efforts Before the Navajo Rehabilitation Project 93

Relevant Literature 94

Navajo Rehabilitation Project Program 94

Methodology 95

Representativeness of the Population 95

Methodological Problems 95

Navajo Rehabilitation Project Outcomes and Effectiveness 96

Chapter VII - Recommendations 99

Future Cross-Cultural Projects 99

A Coordinator of Inter-Agency Referrals and Services 99

Further Test Validation 99

Need for Residence Facilities 100

Education Programs 100

Problem Drinker Program 101

Community Relations Program 101

A Study for Better Understanding of Vocational Success 102

An Economic Study is Needed 102

Facilitate the Employment of Navajos 103

Bibliography 105

Appendix A: Revised Navajo Test Battery 111

Appendix B: Intercorrelation Matrix - General Ability Tests 113

Appendix C: Table I 115

Table II 116

Table III 117

Appendix D: Table I 119

Table II 120

Figure I 121

Table III 122

Appendix E: Figure I 123

Table I 124

Table II 125

LIST OF TABLES AND FIGURES

Figure I - Profile of Mean Score of Navajo Rehabilitation Project Clients on the Wechsler Adult Intelligence Scale 65

Figure II - A Flow Chart of Service Rendered Navajo Rehabilitation Project Clients 76

Table I - Success of Clients According to the Arizona Division of Vocational Rehabilitation, Arizona State Employment Service, and 90-Days Employment 78

Table II - Success of Clients According to the Criterion of Per Cent of Time Worked After Completion of Services 79

PREFACE

The Final Report of the Cooperative Program for Rehabilitation of the Disabled Indian, is an attempt to summarize the significant phases of the Navajo Rehabilitation Project. The Final Report will probably be complete enough to answer questions of those who have general interest in the Project. However, some phases of the Project will have special meaning to some audiences. Thus, to supplement The Final Report (Monograph Number 1), a number of other monographs have been written, but have been reproduced in lesser number than this Report. The other monographs are available to this specialized audience. The monographs are:

Monograph Number 1, Final Report of the Cooperative Program for Rehabilitation of the Disabled Indian, N. B. Henderson, Director.

Monograph Number 2, Disabled Navajo Indians and Rehabilitation: An Anthropological Overview, R. E. Kelly.

Monograph Number 3, Navajo Rehabilitation Project Intake Procedures and Problems, V. L. Avallone.

Monograph Number 4, Counseling Navajo Rehabilitation Clients, N. B. Henderson, and V. L. Avallone.

Monograph Number 5, The Process of Validating a Test Battery for Navajo Rehabilitation Clients, L. T. Casto.

Monograph Number 6, Education as a Process of Vocational Evaluation, Carole Gaspari.

Monograph Number 7, Social Evaluation of Navajo Rehabilitation Clients, Carole Gaspari.

Monograph Number 8, The Navajo Rehabilitation Project Pre-Vocational Laboratory, A. W. Cook and Carole Gaspari.

Monograph Number 9, Placement Procedures and Results of the Navajo Rehabilitation Project, A. R. Sanchez.

The Rehabilitation Center of Northern Arizona University will honor requests for one or several copies of these monographs as long as the supply lasts.

During the four years of Project existence, many people have served on the staff. Because of turnover almost every position has been occupied by at least two different people. Dr. Ronald A. Peterson, the first Director, wrote the original proposal and held the position of Director until June 1964, when Dr. Lawrence T. Casto became Director. Dr. Casto served until September 1964 when Dr. Peterson again assumed the Directorship of the Project. On August 15, 1965, Dr. Peterson again relinquished the position and Dr. Norman B. Henderson directed the Project until its close and assumed primary responsibility for writing the Final Report.

In addition to the people who were listed as authors of this report and authors of the monographs, others made noteworthy contributions to the Navajo Rehabilitation Project. The successful operation of the Project is attributable to the members of the Navajo Rehabilitation Project staff and to the referral agencies. Among these agencies, credit goes especially to the Northern Arizona Division of Vocational Rehabilitation, and personal special credit goes to Vernon K. Cannon, Senior Counselor of that agency. Also, unusual recognition is made of Lawrence E. Powers, who served longer than any other full time employee on the Project and who was unusually effective in the intake process. His work on the Project helped to prepare him for his present position as Counselor for the Northern Arizona Office of the Division of Vocational Rehabilitation.

CHAPTER I

SETTING AND BACKGROUND OF THE PROBLEM

Navajo Reservation, People and Culture

Introduction

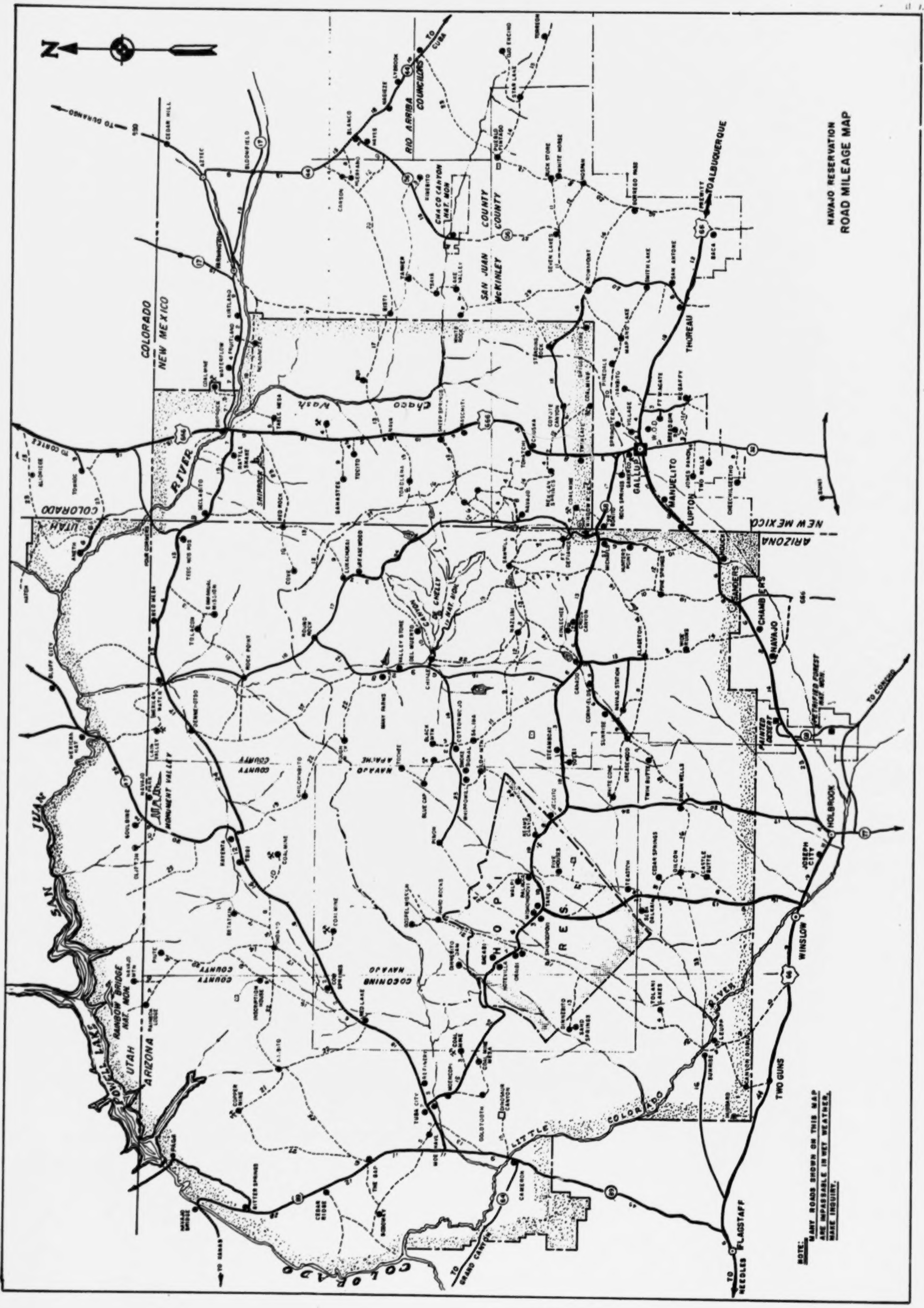
A thorough and interesting description of the Navajo Reservation may be read in Young (1961). The historical and social background presented here has relied heavily on this source.

Geography

The Navajo Reservation is slightly larger than the combined areas of Connecticut, Massachusetts, and New Hampshire. About two-thirds of it is situated in Northern Arizona; most of the other third is in New Mexico, but a small portion extends into Utah. The elevation of the area ranges from three to over ten thousand feet. There are wooded mountain areas, some watered valley floors, much high desert and desert country, much exposed rock and stone.

The summer days are quite warm in most areas; winter nights are often bitter cold. Most days are extremely clear and sunny. Many areas have a high proportion of windy days and blowing sand. Where snow falls it remains in most places only a short time. Thunderstorms lend drama to the summer, but in most areas water is an acute problem. Many Navajos haul it for miles. Much of the Reservation soil is classified as fair or worse and only eleven per cent is excellent for grazing (Young, 1961, Pp. 358-366). The Reservation "range had been over-grazed since the 1880's" (Aberle, 1966, P. 53) and the Federal Government has since the 1930's attempted to control this over-grazing. This control has been a source of Navajo anti-government sentiment.

The nature of the geography, the general water shortage, relative uselessness of the land without irrigation, and the lack of discovery until recently of available valuable minerals



NAVAJO RESERVATION ROAD MILEAGE MAP

NOTE:
MANY ROADS SHOWN ON THIS MAP ARE IMPASSABLE IN WET WEATHER. MAKE INQUIRY.

created little demand for the land except by the Navajos. Its lack of agricultural and mineral wealth permitted the Navajos to expand over the region and permitted relative isolation of Navajos (Aberle, 1966, P. 37).

Traditional and "Anglo" Settlements

Navajo population spills over the Reservation boundaries. A number of Navajo communities dangle more than fifty miles from the Reservation and Navajo hogans nestle against the outskirts of Gallup. On the other hand, there are high concentrations of "Anglo" population in or near some of the Government settlements such as Window Rock, Fort Defiance, Tuba City, and Shiprock. The northwestern and northcentral sections of the Reservation are isolated and the sparse Navajo population there is more traditional than the people who live in the Shiprock and southern regions of the Reservation. Since 1950, a number of paved roads have spanned the Reservation and facilitated truck and automobile traffic. In fact, some of the large trucking firms from Denver or Salt Lake to Phoenix use the roads across the Reservation. Yet, much of the Reservation is served only by fourwheel-drive vehicle or wagon trails (Young, 1961, Pp. 135-137).

Population Figures

Reservation population has increased faster than the increase in Reservation lands, and the Navajo Tribe is the largest Indian group in the United States (Young, 1961, P. 321). Now, there are over 100 thousand Navajos; and a high percentage are young. For example, in 1961, over half of the Navajos were under twenty years of age, which is a much higher proportion than for the rest of the United States (Young, 1961, Pp. 325-327).

Historical Considerations

Anthropologists estimate that the Navajos were a part of the Apache invasion of the Southwest between 1400 and 1500 A.D. Navajos and Apaches speak an Athabaskan language also spoken in the interior of Alaska, Western Canada, and spots along the North Pacific coast. At the time of their arrival they were probably hunters and gatherers; but, probably borrowed agriculture from the Pueblo Indians of the Southwest. After the arrival of the Spanish, the Navajos, somewhere between 1500 and 1600 A.D., adopted sheep grazing and horsemanship. They became less nomadic and developed a combined agricultural, pastural and raiding culture. In 1864, Kit Carson conquered them, moved them several hundred miles with other conquered Apache groups, and crowded them all into Fort Sumner, New Mexico. Here they remained from 1864 to 1868. After much suffering, a Reservation was established for the Navajos in the Four Corners area where they returned in 1868. Then, there were an estimated 6,000 Navajos (Underhill, 1956, Pp. 156-204). The Navajos were able to extend their Reservation by tribal purchase, presidential order, ajudication and other government action. The Reservation expanded especially westward, and contact with other Americans has increased. This increased contact has resulted in many changes in Navajo cultural, social, political, and economic life (Hester, 1962, Pp. 87-90; Underhill, 1956, Pp. 260-269; Kluckhohn, 1958, Pp. 111-117).

The Navajo Nuclear Family

The biological or nuclear family, consisting of parents and children who occupy a single dwelling, is the basic unit of social and economic cooperation among Navajos. Monogamy is the general pattern of marriage. Polygyny was a part of the cultural pattern and still exists among a few of the wealthy in stock raising areas. Multiple wives almost always maintain separate households unless they are related (Shepardson, 1963, Pp. 28-29).

The Extended Family

Most Navajos are a part of an extended family, which also acts as an economic and social unit. Traditionally the family locus was ideally matrilocal. Matrilocal influence is still strong. The extended family residence unit, today, usually consists of up to ten households of biological families, and they are usually located within "shouting" distance of each other (Kluckhohn and Leighton, 1958, Pp. 56-58). There is some tendency for younger Navajos today to break away from the extended family life and establish independent residences. This tendency is seen in the more acculturated areas such as Tuba City, Window Rock, and Shiprock. Some extended families, particularly those relying on grazing for part of their income, have a winter residence and another summer residence (Shepardson, 1963, Pp. 30-32).

The Outfit

A combination of extended families sometimes join together to pool their economic and social resources. The size of the outfit depends upon the wealth of its male leader and his wife or wives and may include one hundred or more persons. The outfit is often the basic unit for credit which is extended by traders. Different outfits are joined together by clan affiliation (Kluckhohn, 1944, Pp. 62-63).

The Clan

The traditional functions of the clan have been destroyed by the supra-clan central organization fostered by the United States Government. However, certain sentimental bonds involving hospitality and friendship continue among members of the same clan. An earlier prohibition of marrying within the clan or clusters of related clans is much less obeyed today (Shepardson, 1963, Pp. 35-36; Kluckhohn and Leighton, 1958, Pp. 63-66). There is a tendency for certain clans to predominate in a given area. This kind of geographic preponderancy may indicate that at one time clans were local groups (Shepardson, 1963, Pp. 36; Levy, 1962, Pp. 781-801).

The Navajo Tribe as a Social Unit

Tribal consciousness among Navajos is a rather recent phenomenon. In the past what unity existed was based upon such cultural factors as the possession of a common language, territory, and similar customs and ceremonies. Traditionally, the largest social unit among Navajos was the band, which occupied a specific territory and was led by a headman. Navajos were not treated as a single tribal unit until they were involved in treaty negotiations with the United States Government (Shepardson, 1963, Pp. 26-53).

Leadership

Traditionally there was no unified social and political organization, but leadership existed in the form of the nataani or band leader who was considered to have wisdom, good personal character, persuasive oratory, and some supernatural power. Today the ability to speak both languages well and to deal with the federal government authorities effectively is often important (Shepardson, 1963, Pp. 50-51). The headman holds no coercive powers but must rely upon his personal ability to lead or influence the others by admonition. "Community" decisions at meetings which are lengthy with much discussion are usually unanimous. Perhaps the real influence on the outcome of the meeting will be agreements made "behind the scenes" with an influencial or prestigious man (Shepardson, 1963, P. 48).

Political Organization Today

The Navajo Tribal Council, located at Window Rock, Arizona constitutes the full-time executive branch of Navajo government. The Tribal Council has legislative and executive powers. It makes the major policy decisions of the Tribe. However, such decisions are subject to the approval or veto of the Secretary of the Interior of the United States. Councilmen are elected from Chapter House districts. The Council certifies the Chapters, requires them to file regular reports of their meetings, and pays per diem salaries to each Chapter president, vice-president, and secretary. Chapters process welfare applications submitted to the Council, conduct primary elections, and plan and administer public works in their jurisdiction. The Chapter serves as the principle means of communication between the local area and the Tribal Council. Courts enforce the chapter decisions. Chapter officers are elected by a majority.

Another local organization connected to the Tribal Council is the Grazing Committee. Grazing Committees handle the district grazing regulations which are adopted by the Tribal Council. The members of the Committee are chosen in local elections.

While the groups involved in the Tribal Government are quite distinct, their areas of authority are not always well defined, and jurisdictional disputes occur with considerable frequency (Shepardson, 1963, Pp. 64-67).

The Tribal judicial system consists of seven judges and several courts--criminal, civil, and probate. Jurisdiction includes all cases except those involving federal offenses.

Housing

The hogan, a round or octagonal house made of timbers and earth, is the traditional Navajo home, and according to tribal studies in selected communities, about five per cent of Navajo homes are hogans. Frame structures, often substandard, comprise about 30 per cent of the housing, while the remaining are combinations of hogan and frame construction. To correct substandard housing on the Reservation, the Tribe has instituted a low cost construction program. According to tribal surveys, an average of 6.1 persons occupy each room; but a sizeable number of structures house eight or more persons. Over three-quarters of the homes are only small, one-room houses. It is common to see various types of structures in residence clusters. Residence clusters typically comprise several habitational structures, ramadas or summer shades, outhouses, corrals, storage buildings, and a trash dump. Since the traditional hogan retains ceremonial importance, most of these clusters contain at least one hogan. Much Navajo daily life is carried on outside; thus homes are usually crowded only at night and during bad weather. Few Navajo homes have a piped water supply or electricity. The distance to domestic water for most Navajo homes is greater than one mile. Poor sanitation near houses often precludes a closer proximity to domestic water supplies. Navajo homes often have dirt floors, a single stove, little furniture, and no windows. (Young, 1961, Pp. 304-307 and 367-368; Kluckhohn and Leighton, 1958, Pp. 44-47).

Housing varies from "shanty towns" on the margins of some modern towns to quite substantial houses and traditional hogan clusters in the hinterland. Housing reflects economic status and acculturation. Navajos living on the Reservation usually pay no rent or utilities. House payments and the cost of erecting houses are usually low.

Food

Perhaps one of the aspects of Navajo culture which exemplified change as well as retention of traditional patterns is in foodstuffs. Today the "Anglo" influence is seen in canned foods of all kinds, coffee, soda pop, and candies. In the past, fish and meat of certain animals such as bear were taboo. Mutton and fry bread became important staples. Now there are very few bear left and canned sardines are eaten. To educate Navajos in the importance of proper food, governmental schools and agencies have programs extolling balanced diets (Hester, 1962, Pp. 27, 59, 73).

Clothing

Many "traditionally oriented" Navajo women wear fluted calico skirts which were copied from the dress of the Spanish or of officers' wives at Fort Sumner. They wear velveteen blouses, Pendleton blankets or shawls, and often abundant jewelry.

"Traditional" Navajo men wear "Western" dress. Older men often wear a belt of large conchos, a turquoise necklace and earrings, tall-crowned dark hats, and Navajo style moccasins. "Traditional" Navajo men and women wear their hair tied in a long vertical knot on back, called a chongo (Young, 1961, P.5).

Education

The first formal schools started about 1870, and were followed in 1883 by the first boarding school at Fort Defiance. By 1958, there were forty-nine on-Reservation schools, seventeen off-Reservation boarding schools, thirty-seven trailer day schools and about twenty-five mission schools. In this same year, a little over 28,000 children, of all grades, were enrolled in these schools whereas in 1939 there had been only 6,375 enrolled pupils. Over half of the gain made before 1958 was made after 1952. Navajo interest in education, particularly in learning English, has increased greatly since World War II. Since 1933, a number of Navajos have been employed as either teachers or administrators. Also, since this time, a modern "progressive" type of education has become the policy in the Navajo schools. This "progressive" education is a radical change from the previous, rather harsh, military-like disciplined school environment, and Tribal Council Scholarship Committee funds provide for higher education for Navajos (Young, 1961, Pp. 7-29).

Communication Media

Presently, communication media on the Reservation is largely derived from "Western" technology. Telephone lines connect major communities and smaller trading post settlements, but telephones are found in only a few acculturated Navajo homes in larger centers. Navajo language radio broadcasts are transmitted from commercial stations in border towns, and official Tribal Council news is broadcast from a Gallup station. Most families own at least one portable radio. A weekly Tribal newspaper, The Navajo Times, is printed in English and carries Reservation news. It is sold at many trading posts, cafes, and service stations, but readers must be familiar with written English. Non-commercial radio communication is used by the Tribal Police radio network. There are interesting stories about the construction of television reception antennas. Although there are few airstrips on the Reservation, landing facilities are located in Window Rock, Monument Valley, Tuba City, Pinon, Kayenta, and the Navajo Mountain area. Mail is delivered from Flagstaff or Gallup and reaches local trading posts nearly every day.

Informal word-of-mouth and Chapter meetings and other assemblies are more traditional channels of communication.

Economics

In about two generations, Navajo economy has changed from a herding and farming to a wage-money economy. The depression of the 1930's reduced the importance of agriculture and sheep raising in Navajo economy; thus, by 1936, wages paid to Navajos represented 34 per cent of the total Reservation income (Young, 1961, P. 212). Individual income in 1960 for Navajos has been tabulated under three categories: (1) earned cash income equalled 68.18 per cent; (2) unearned cash income, 11.8 per cent; (3) unearned, non-cash income, 19.3 per cent. Average income for a five member family, including all free services, would approximate $2,600 (Young, 1961, P. 228).

Of the total earned cash income for Navajo individuals in 1960, 37.2 per cent originated from Bureau of Indian Affairs, United States Public Health Service, or Tribal payrolls, and 8 per cent, from private industry, United States Army Depots, and Federal construction projects such as the Glen Canyon Dam. Other minor sources of earned cash income included agriculture and stock raising (7.7 per cent) and off-Reservation railroad work (3.8 per cent). But the average per capita income still remained between one-third and one-fourth of the United States national average of $2,166. (Young, 1961, P. 229).

The Navajo attitude toward work and money differs from the "Protestant Ethic" viewpoint of "Anglos." To most Navajos, work does not have the moral value attached to it by "Anglos." Navajos are largely oriented towards immediacy and acts of practical value. (Leighton, 1944, P. 234). Jobs are performed for cash which may be used to buy material goods and food. Indebtedness and unemployment are not particularly avoided or abhorred by most Navajos. If money can be obtained by not working, traditional Navajos see no reason to hold jobs but they "work" nonetheless by herding, shearing or dipping sheep, building hogans, wood cutting, and general household maintenance (Kluckhohn and Leighton, 1958, pp. 220-22; Albert, 1956, pp. 221-248).

Urban Living

The urbanization of American Indians was a topic of anthropological research by a Project staff anthropologist (Kelly, 1966).

An American Indian coming to an "Anglo" city is generally driven by two forces; economic necessity which may cause him to leave the Reservation, and emotional attachment which may "pull" him back to the Reservation. Navajos often have had little experience with rent and utility payments, traffic, and discrimination practices of some "Anglos." Other characteristics of Indians in urban areas are conspicuous alcohol consumption (much higher than that found in other ethnic minorities), a confining identification of "Indianness", and a desire to travel back and forth between the Reservation and the city.

Northern Arizona communities are not large, but some are close to parts of the Reservation. Greater "Anglo" familiarity with Indians in Arizona may or may not result in greater discrimination. Nevertheless, many Navajos often visit and shop in Flagstaff, Gallup, and other towns; and they are generally familiar with the appearance of the city, but are not familiar with the mechanics of daily urban living. Fortunately, visits of Navajos from the Reservation to the towns are not generally difficult, and disabled Navajo clients often found in Flagstaff friends who came from the Reservation.

Navajo Values Related to Work and Economics

Because the values of a culture or sub-culture influence economic behavior, it is important to mention some Navajo values which affect their responses to work situations, their training for employment, and their rehabilitation.

Major Navajo values which define the concept of "goodness" are productiveness, generosity, dependability, helpfulness, and ability to get along with others. Health, strength, possessions and their care, and practical skills are highly valued since these qualities are necessary for a person to be able to work. However, "work" is not "good" in itself, but only for where it leads. Industry is prized not only because it enabled the acquisition of other basic necessities, but also because it can lead to the accumulation of possessions, including ceremonial knowledge. Consistent with notions of intra-kingroup cooperation, displays of wealth, however, are expressions of the extended family and even the "outfit" rather than a personal matter. A "rich man" among Navajos, consequently, does not have the same kind of individual freedom in disposing of his wealth as does his "Anglo" counterpart. (Albert, 1956, Pp. 224-225).

Positive personal characteristics that are admired are affectionate duty to relatives, pleasant behavior to everyone, generosity, and self-control; one should cheerfully cooperate with the people with whom he interacts. Personal excellence involves knowledge, good speaking ability, and a good physique and facial appearance. There is always the possibility that a man who accumulates too much may be accused of being a witch. Converse to the positive values are the negative values of laziness, stinginess, destructiveness, and cruelty to others (Kluckhohn, and Leighton, 1958, Pp. 220-223).

Nature is more powerful than man, and traditional Navajos do not minimize attempts at mastery over nature. However, they carry out a number of activities, mostly ritual, aimed at controlling nature or remedying damage caused by nature. In effect, nature will take care of people if the proper behavior and rules are observed. For the most part, actual practical interference with nature (constructing dams, etc.) is considered a waste of time.

The Navajo religious system contains many different ceremonials and is basically a set of techniques for acquiring food, restoring health, generally enduring survival, and affording security. While the curing rites are strongly focused on individuals, the patient's immediate "kinfolk" contribute by furnishing money and in helping to make preparations. The community participates by observing. Giving a ceremonial is a way of gaining social prestige (Young, 1961, P. 522; Kluckhohn and Leighton, 1958, P. 163).

Death and everything connected with it (including ghosts, in the form of humans, animals, birds, fire, and whirlwinds) are greatly feared. Since most dead persons turn into ghosts, any dead person is a potential source of danger (Kluckhohn, and Leighton, 1958, Pp. 126, 142).

Witches are evil people of both sexes, the living counterparts of ghosts, who violate moral and religious rules. They are able to acquire property and to cause the illness and death of their enemies. Such danger can be avoided by performing the proper ceremonials which ultimately cause the witch's death. Although most Navajos are highly reluctant to discuss it with "Anglos", belief in witchcraft is widespread. As a method of social control, the fear of being called a witch is a strong deterrent to certain excess activities such as the accumulation of too much wealth. Furthermore, either becoming a witch or attacks upon witches serve as channels for the release of aggressions (Kluckhohn, 1944; Kluckhohn and Leighton, 1958, Pp. 128-132).

Today there are different degrees of adherence to the Navajo cultural system depending upon the amount, quality, and intensity of contact individual Navajos have had with "Anglos", school attendance, and off-Reservation experience either in work or in the armed services. The time in life of this contact and the home influence will, also, determine the attachment a Navajo has toward either society. The replacement of one way of life for another often entails considerable confusion regarding which set of culturally derived principles to follow, "Anglo" or Navajo.

Some Historical Background for Present Welfare Practices

The United States Government treaty with the Navajos in 1868, did not provide for expansion of area to compensate for the population explosion on the Reservation. However, "the treaty itself granted aid to the members of the Tribe for a period of ten years in the form of clothing, tools, and other necessities. ...Provision was also made for the purchase" of cattle, and corn, "for the relief of the needy" (Young, 1961, P. 287). Later assistance was given to other Indians in the form of commodities. A report on the problems of Indian administration recommended "the need for trained social workers in the Indian service and the addition of social case worker positions" (Young, 1961, P. 289). In 1941, "a branch of community services which include the Division of Welfare" was created and in 1943, "social worker position was established on the Navajo Reservation" (Young, 1961, P. 289).

During the depression of the 30's, Arizona, New Mexico, and Utah "established public welfare departments." They offered "old age assistance, aid to dependent children and the blind, but neither Arizona nor New Mexico initially included assistance to the Indians under their state welfare programs" (Young, 1961, P. 289). During this time campaigns were begun to include Indians under the state welfare programs. "As a result, applications for public assistance were accepted both by Arizona and New Mexico but no payments were made immediately to eligible Navajos by the States" (Young, 1961, P. 290). In the late 1930's both New Mexico and Arizona finally granted old age assistance, aid to dependent children, and aid to the blind.

Federal assistance has traditionally been in the form of rations

> to families who were certified as destitute.....It was not until 1945 that general assistance in the form of checks was extended to Navajos in lieu of rations. It was not until 1948, that the administration of general assistance was placed in the Navajo Branch of Welfare (Young, 1961, P. 290).

A concerted effort with a special staff of Indian social workers in 1948 established case records that would contain all necessary information required to establish eligibility for public assistance under the various state programs or of general assistance under the Bureau of Indian Affairs (Young, 1961, P. 293). Also in 1948, "Congress appropriated...a million dollars for an emergency relief program for the Navajos. Work under this appropriation was started at once on the construction of roads, soil conservation, irrigation, and school and hospital repair" (Young, 1961, P. 293). Also during 1948, the Bureau of Indian Affairs established an off-Reservation program to employ more than 13,000 Navajos in railroad, agriculture, mining, and other types of work. Most of this off-Reservation work was temporary. The government continued to help Navajos find work and settle away from the Reservation permanently, but the success of these efforts has always been limited because of housing, education, and health problems, and the reluctance of most Navajos to leave their homeland (Young, 1961, P. 293). The Bureau of Indian Affairs has also sponsored Adult Education programs to compensate for the lack of the usual American childhood education program among the Indians.

Thus, federal and state government efforts to meet Indian educational, employment, economic, and social needs is not new. This brief outline of Navajo background, relying as it does heavily on Young, is necessary to understand the context of the Navajo Rehabilitation Project.

Prevalence of Disability

The prevalence of disability among Navajos is difficult to determine. No accurate census of disabled persons apparently exists in the Bureau of Indian Affairs tribal records; available figures only give a probable order of magnitude. Most probably the proportion of disabled persons is greater than the general United States population, but this cannot be shown with available data. However, using an incidence of 14.6 disabled persons per 1,000 population (Young, 1958), a group of 1,460 Navajo people needed some assistance in making an adjustment to their physical disabilities. This rate is only approximate, because of poor case finding and poor reporting of data.

In fiscal year 1964, there were a total of 5,440 known and treated cases of disability--this total is 5.4 per cent of the total Navajo population. These figures can be misleading in an attempt to determine how many Navajos are in need of vocational rehabilitation because some of these disabling conditions were neither serious nor long enduring. Kelly (1967, Monograph Number 2) presented in detail, attitudes toward, techniques for testing, impact of modern medicine on, and historical perspective about Navajo illness and disability.

Rehabilitation Efforts Before the Navajo Rehabilitation Project

The history of Vocational Rehabilitation Services to the Navajo Indian population can only be understood when attention is again paid to the vastness of Northern Arizona. Northern Arizona includes half the area, but less than a third of the diverse population of Arizona. This vastness alone makes it impossible for a single Division of Vocational Rehabilitation counselor to serve adequately the Navajos, let alone the other ethnic groups of Northern Arizona. Even though by 1955 the Division of Vocational Rehabilitation Counselor and the Division administrators recognized a rehabilitation need and attempted to provide rehabilitation services to the Navajo population, geographic and ethnic obstacles made adequate service impossible.

During the five-year period from 1957 to 1962, a total of thirty-three Navajo clients were served by the Northern Arizona Office of the Division of Vocational Rehabilitation. Even for this limited number, services were hampered by a lack of rehabilitation facilities. The majority of these clients were not successfully rehabilitated. The small number of Navajo Vocational Rehabilitation clients served and the low proportion of Navajo success contributed to the development of a research and demonstration program, the Navajo Rehabilitation Project.

Development of the Navajo Rehabilitation Project

Instrumental in developing the Navajo Rehabilitation Project was the Northern Arizona Rehabilitation Advisory Committee. It was established under the leadership of the Senior Counselor from the Northern Arizona Office of the Division of Vocational Rehabilitation. Serving on this committee were representatives from Boards of County Supervisors from Northern Arizona, the Navajo Tribe, United States Public Health Service, Arizona Legislature, Department of Welfare, Southwest School of Missions, the Easter Seal Society, Arizona State College, Regional Office of the Vocational Rehabilitation Administration, and the Division of Vocational Rehabilitation. In 1961, through the efforts of this Advisory Committee the president of the college agreed to foster a project which would provide rehabilitation services on the college campus. In 1962, the President of Arizona State College invited a graduate of a doctoral rehabilitation and counseling psychology training program to become a faculty member of the college. He was assigned by the college to formulate the Navajo Rehabilitation Project and he served for the first two years as Director of the Navajo Rehabilitation Project. He, along with the other Northern Arizona people interested in developing a program for rehabilitating disabled Navajos, and a representative of the San Francisco Regional Office of the Vocational Rehabilitation Administration met to plan the development of this research and demonstration Project. Information from these sources helped lay the groundwork for the grant proposal prepared by the college representative.

The Purpose and Rationale

The general purpose of this Project was to demonstrate that a state college, working in cooperation with a group of community agencies and organizations can find methods and techniques to overcome cultural and language barriers in evaluating and training disabled Navajo Indians for placement in jobs on the Reservation.

The specific purposes were (1) to explore the potentials of disabled Navajos for rehabilitation and subsequent adjustment on the Reservation; (2) to explore the extent to which disabilities among Navajos constitute employment and training handicaps; (3) to explore which methods, techniques and procedures of evaluation currently in use are appropriate for vocational evaluation of people in the Navajo culture; (4) to demonstrate what constitutes maximal vocational evaluation of Navajos; (5) to determine the minimal amount of communication skills necessary for effective vocational rehabilitation of Navajos; (6) to explore how local social agencies can better coordinate their services for the successful rehabilitation of Navajos; (7) to determine whether any factors can be used to identify Indians on the Reservation most likely to succeed in the vocational rehabilitation process; (8) to investigate family and employer attitudes and reactions to rehabilitation of members, and to determine how best to enlist their cooperation in rehabilitation planning; (9) to identify problems peculiar to rehabilitation of disabled Navajo Indians; (10) to explore appropriate placement techniques on an Indian Reservation; (11) to investigate what job potentials exist for the disabled on a reservation; and (12) to explore how an evaluation and training unit on a college campus can further faculty understanding of a different cultural group.

Some of these purposes were emphasized, some combined with others, some faded in importance and new purposes were generated by the service and research aspects of the Project.

Relevant Literature

Comparison of Navajo and Appalachian Attitudes and Problems

Many comparisons can be made of Navajos with the people of Appalachia. In the hill country of West Virginia and Kentucky, great economic changes are occuring, making it necessary for many of the population to leave their hills and seek employment elsewhere (United States Department of Health, Education, and Welfare, 1964). These same economic and social-psychological pressures operate with Navajos. Zintz (1967,

P. 92) notes that "the Reservation can support no more than a third of the Navajo population if they are to, in any measure, approximate the usually expected standard of living."

Many of the people in Appalachia survive only by the receipt of welfare funds (United States Department of Health, Education, and Welfare, 1964, P. 6). There are many more people than there are available jobs, and even if a man does find work, he often earns less money than he could receive from welfare payments. On the Navajo Reservation, too, there is a scarcity of jobs; the disabled Navajo receiving regular welfare checks is a financial benefit to his family (Kelly, 1967, P. 16), and there is often little incentive to look for a low-paying job off the Reservation.

Heavy drinking and spree drinking is a common behavior pattern of both Appalachians and Navajos. Of the Appalachians, the Mental Health Report (United States Department of Health, Education, and Welfare, 1964, P. 10) states that "Drinking is a definite part of the culture of young men...The Appalachian hill people...get the maximum nuisance value out of alcohol." A large proportion of the Navajo people, as well, exhibit drinking behavior that gets them into trouble. A large percentage of Navajo men have arrest records that indicate they have been jailed for drunk and disorderly conduct. Drinking often interferes with employment, since Navajos in jail miss work and often lose their jobs as a result.

Another similarity of Navajos and the people of Appalachia is their strong family ties. The family is a close unit. Sharing what the family has with less fortunate relatives is common to both these cultural groups (United States Department of Health, Education, and Welfare, 1964; Thompson, 1964).

Projects Related to the Navajo Rehabilitation Project

In the last few years in the United States interest has increased in rehabilitation efforts especially with the poverty-stricken, the unemployed, and the culturally different.

A project entitled "A New Attack Upon Rural Poverty" has been in progress at Northern Michigan University (Ryan, 1965). This project was established to experiment with ways of solving unemployment among rural high school drop-outs. The services offered were basic education, job orientation, counseling, job training, and limited placement. At the end of the first five months of operation, the project staff believed that the clients were making good progress. No report was available as to the current status of this project.

In eastern North Carolina a manpower improvement project has been established to assist the unemployed (McDonald, 1965). The socio-economic characteristics of this area are a long economic decline, low levels of education and family income, and severe cultural deprivation. Job opportunities were to be explored, and some redirection of the rural worker to other areas of the state for employment was to be attempted. On-the-job training possibilities were explored and found to be plentiful. Basic education was seen as a prerequisite to vocational training because most of the clients had fifth grade education or less. At the time the progress report was written, the project had only been in operation a few months; but the rural population was receiving the project with enthusiasm. A specific manpower development experimental and demonstration project sponsored by the North Carolina Fund is titled "Manpower Improvement Through Community Effort II" (Jones, 1966). This project is attempting to provide adult basic education, on-the-job training programs, and counseling services for rural illiterates. Twenty-five per cent of their qualified client load is Indian; 72 per cent are Negro; and 37 per cent are Caucasian.

The Jewish Employment and Vocational Service in St. Louis, Missouri, (1965) has sponsored a youth training project. This project combined job training, work adjustment training, and counseling "class" sessions. Placement services are provided for the clients after their training is completed. In their April, 1965 report, the project had served 79 clients -- 40 of these had been placed in training, and 36 had been placed in jobs. Six of those placed in jobs were unsuccessful and were terminated.

The goals of the Michigan Catholic Conference Job Training Center in Lansing, Michigan (1965) were to recruit and test three hundred persons who had had little formal education, little ability to converse or write in English, and who represented relatively unmarketable skills. One half of those tested were selected for skill training developed by the Center. The clients included Negroes, Mexicans, and other Spanish-speaking peoples, and a few American Indians. All the clients selected were in need of basic education, were unemployed, and were culturally and financially deprived. The Job Training provided basic education, counseling and job training programs for the clients. Of a total client group of 172 clients, 103 were in training or had finished training. Twenty-seven clients in this group had been placed in jobs. Sixty-nine clients were terminated, with thirty-six terminations for positive reasons, such as finding a job. Some of the tentative conclusions reached by this project were that (1) it was possible and feasible to train the hard-core unemployed; (2) a full 104 weeks of training (including basic education) was necessary for some clients, particularly those functioning upon entry below a fourth grade level; (3) clients' performances on the General Aptitude Test Battery could be considerably improved after an intensive three months basic education program, allowing some clients to qualify for Man Power Development Training Act job training programs; and (4) a need for more non-verbal and culture-free tests was noted. In the summary of the progress report, it was stated that, "To build an effective program of re-training and re-orientation of the hard-core unemployed, a program must begin to meet the individual needs of the disadvantaged person on his level. No amount of testing, counseling, basic education can or will be significant if needs, desires and the future of the individual are overlooked in deference to the structure or the expedience of the program itself" (Michigan Catholic Conference, 1965, P. 38).

Another demonstration-research training program for the hard-core unemployed was located at Virginia State College in Norfolk (Cooper, 1964). The project was designed to study and develop materials and techniques for training hard-core unemployed workers, and to demonstrate the effectiveness of vocational-technical education, general education, and counseling in training these workers for selected occupations. The project trained one hundred men for a year in electronics, auto mechanics, sheet metal, maintenance technology, and masonry. The trainees were paid 25 dollars a week during the training period. The experimental group of trainees will be compared with a control group who did not receive training in a follow-up study of job success.

Two Indian rehabilitation projects had a purpose similar to the Navajo Rehabilitation Project, the Montana Project (Johnson, 1966) and the Alaska Project (Project Staff, 1966). The purpose of the project at Northern Montana College was "to identify factors associated with and to improve the effectiveness of vocational training in rehabilitating handicapped Montana Indians" (Johnson, 1966, P. 1). When the Montana Project began, "no published literature relative to solving problems in rehabilitating Indians was known to exist" (Johnson, 1966, P.V.). The Montana Indian Rehabilitation Project and its staff were a multi-purpose surveillance and evaluation unit attached temporarily to a vocational training institution. The project acted as a liaison between rehabilitation and higher education. A select group of Indian clients were chosen to begin training programs at Montana State College. Most of these training programs were of a vocation-technical nature. The project staff provided guidance and counseling, remedial education, and other supportive functions for their Indian clients. The average grade completed by these project clients was 10.96, relatively higher than that of the average (9.2) Division of Vocational Rehabilitation Indian referral excluding Northern Montana College Project clients, and much higher than Navajo Rehabilitation Project clients (6.6).

The Montana College Project staff did not actively place any of their clients, as the placement function was performed by other existing agencies such as the Division of Vocational Rehabilitation, Montana Employment Service, and the Bureau of Indian Affairs.

The Rehabilitation Project at the Alaska Native Medical Center has as its purpose the utilization of research and demonstration methods to solve rehabilitation problems unique to the Alaskan Native people (Rehabilitation Project Staff, 1966). This Project is very similar in purpose the Navajo Rehabilitation Project. Both Projects are concerned with the development of evaluation techniques for the rehabilitation of disabled Indian groups. In the 1966 Progress Report, the Alaska Project had evaluated 204 clients, and had provided basic adult education and referral services to appropriate agencies such as the Alaska Office of Vocational Rehabilitation, the Manpower Development and Training Program, and the South Central Alaska Project for Habilitation House Assistance.

One of the major problems similar to the Navajo Rehabilitation Project noted by the Alaska Project was the high incidence of alcoholism among their clients.

Problems in Testing Minority Groups

There is considerable evidence that the culturally different person in the United States is handicapped on tests of intelligence. Negroes, American Indians, Mexican-Americans, immigrants, and other minority groups do not, in general, perform as well on measures of intelligence as do other children (Klineberg, 1963; Anastasi, 1963, Pp. 563-570; Carlson and Henderson, 1950). Klineberg strongly believes that "there is no scientifically acceptable evidence that ethnic groups differ in innate abilities" (1963, P. 202).

Test performance is influenced by a varity of factors, including language differences, educational experiences, social and economic level, and in the facilities for intellectual advancement that are available (Anastasi, 1963, P. 192; Klineberg, 1935). Klineberg (1935) also stresses that test questions may convey different meanings to people of a different culture than those presupposed. "The experiences of people living in different cultures may vary in such a way as to lead to basically different perceptual responses, lend a different meaning to their actions" (Anastasi, 1963, P. 550).

Within the United States cultural setting, intelligence is largely defined in terms of verbal abilities (Anastasi, 1963). Indian children are usually language handicapped; they average consistently below the white norms on verbal tests; but on non-verbal tests or tests of performance they score as well as white children. Thus interpretation of test results with minority groups must be done carefully. The Work Group of the Society for the Psychological Study of Social Issues lists three areas of difficulty in the use of standardized tests with minority groups (1964, P. 130):

1) they may not provide reliable differentiation in the range of the minority group's scores;
2) their predictive validity for minority groups may be quite different from that of the standardization and validation groups;
3) the validity of their interpretation is strongly dependent upon an adequate understanding in the social and cultural background of the group in question.

The Work Group concludes their study by emphasizing that test scores of minority group children may have different meanings than similar test scores of non-minority children, and that test scores should not be used to indicate fixed levels of performance or potential (1964, P. 143).

The Setting

Location

The Navajo Rehabilitation Project was housed on the Arizona State College campus, Flagstaff, Arizona (population 25,000). At the beginning of the Project, the college enrollment was 3,345 students. In May of 1966, Arizona State College had an enrollment of over 5,000 students and it became Northern Arizona University. In 1967, at the close of the Project, over 6,000 regular college students were enrolled. The City of Flagstaff was also rapidly expanding.

Development of Northern Arizona Rehabilitation Center

Shortly after the Project began the demand for evaluation services was obvious for others than just the Navajo population of Northern Arizona. Thus, the Rehabilitation Center was founded. At the close of the Project, the Center offered vocational and psychological evaluation, physiotherapy, adult remedial education, pre-schooling for the mentally retarded, speech therapy, and other related services.

Related Organizations

Division of Vocational Rehabilitation

Since the overwhelming majority of Navajo Rehabilitation Project clients were referred through the Northern Arizona Office of the Division of Vocational Rehabilitation, and since most of the clients also remained clients of the Division office, other agencies had difficulty separating the Navajo Rehabilitation Project from the Division of Vocational Rehabilitation. When the Project was conceived, as mentioned earlier, there was only one counselor, the Senior Counselor, in the Northern Arizona Division of Vocational Rehabilitation office. In 1964, another counselor was added to the staff; then a third, in the fall of 1966. Thus, as the Project continued, there was a case load increase in the Division of Vocational Rehabilitation Office; and an increase in personnel to handle this load. Obviously, Navajo Rehabilitation Project intake and other activities added to the case load of the Northern Arizona Division of Vocational Rehabilitation. The overwhelming majority of referrals was from, and the highest proportion of communication was with, the Division of Vocational Rehabilitation; but other agencies performed vital services in meeting the needs of Navajo Rehabilitation Project clients, and to facilitate these services much communication with them was essential.

Public Health Service

The United States Public Health Service was one of these agencies. It provides medical services for Indians, and it has a number of hospitals and clinics strategically placed on and close to the Reservation. However, most of the communication of Project personnel with this Federal agency was with the Tuba City, 80 miles from Flagstaff, and the Winslow, 60 miles from Flagstaff, Public Health Service Indian Hospitals. These and most other Public Health Service hospitals in the area employ medical social workers. Most of the Project communication with the Public Health Service was through these social workers. Thus, while they were in Flagstaff as well as on the Reservation, the Public Health Service provided essential medical attention to Navajo Rehabilitation Project clients. The clients could, when in need of medical care, go either to the Tuba City Hospital or the Winslow Hospital.

When emergencies arose, and with prior authorization from a Public Health Service Unit Director, a client could get care through a Flagstaff physician and the Flagstaff Community Hospital.

Bureau of Indian Affairs

Each Bureau of Indian Affairs Agency office also employs a social worker. As with the Public Health Service social workers, the Bureau of Indian Affairs Social Workers served Navajo Rehabilitation Project clients by preparing social summaries, counseling clients, referring them, and attending to follow-up needs and making reports.

Also as with the Public Health Service facilities, the Bureau of Indian Affairs has strategically placed Office of Employment Assistance facilities. Counselors of these facilities also made referrals to the Project and were also instrumental in placing some clients after they had completed evaluation.

The Bureau of Indian Affairs and the Public Health Service are the two largest employers on the Reservation; and thus, potential sources of disabled Navajo employment.

County Welfare Offices

Three Northern Arizona County Welfare offices, Coconino County, Navajo County, and Apache County, made referrals to the Project and provided welfare funds for the dependent members of Project clients' families.

Arizona Employment Security Commission

The Arizona Employment Security Commission was an occassional source of job placement.

Arizona Blind Services

Arizona Blind Services made referrals of partially blind and blind clients. This agency financed educational and provided other services to their clients who had been referred to the Project. Arizona Blind Services also assumed the primary responsibility in some instances for the employment of Project clients.

Goodwill Industries

Goodwill Industries Incorporated played a vital referral role through both their Flagstaff and Phoenix stores. A number of Navajo Rehabilitation Project clients received extended on-the-job evaluation or were placed on jobs in the Flagstaff Goodwill Industries store. The pay they earned while on these jobs was often an incentive which clients might not have found elsewhere; but wages were low enough to foster search for better paying jobs.

Private Business

A number of businessmen of Flagstaff and other areas, especially small businessmen, provided training for clients and hired trained Project clients or offered them direct employment. However, some businessmen reported previous unsatisfactory experiences with Navajo employees and refused directly or indirectly to cooperate in training or employing Navajo Rehabilitation Project clients. It is impossible to determine to what degree unsatisfactory experience or prejudice of most of these non-cooperating businessmen determined the refusal to participate. However, some clients who were placed failed to meet employment realities and tended to support the employers' arguments. The traits which the failures displayed were sometimes apparent during evaluation. However, some employers, who had reported negative experience with Navajo employees, were willing, when the Project staff provided strong recommendations, to employ Project clients. The employment history indicates that most of the recommendations were accurate evaluations of the client employment potential.

Missions

Mission schools and hospitals were sources of referral of some clients for evaluation. Several Project clients, in turn, were referred to Sage Memorial Hospital at Ganado and Southwestern School of Missions in Flagstaff.

CHAPTER II

THE NAVAJO REHABILITATION PROJECT PROGRAM

Major Project Functions

The three primary functions of the Project were (1) to develop vocational rehabilitation evaluation techniques and procedures for disabled Navajo Indians, (2) to demonstrate procedures for coordinating and involving all agencies in Northern Arizona responsible for rehabilitating disabled Navajo people, and (3) to gather and research the data produced by the service functions of the Project; that is, to study the effectiveness of tests, techniques, and procedures used in the evaluation of disabled Navajos.

When the Navajo Rehabilitation Project began, there were no studies reported of evaluation programs for Indian disabled clients. There was no previous specific applicable experience on which to develop such a program. Thus, if research were to be made on the effectiveness of a program for evaluating disabled Navajos, some parts of the program would have to be originated.

The evaluation program was devised by using techniques and tests frequently used in other vocational rehabilitation evaluation settings; but, in addition, tests not usually used in these settings were selected, social and educational evaluation were introduced, and usual pre-vocational evaluation procedures were adapted. Thus, much of the program had to be developed on an a priori basis; namely, what appeared appropriate for evaluating Navajo rehabilitation clients was added to the program. At the outset, many more tests and evaluation procedures were incorporated in the program than in other evaluation settings, and more than would be necessary after the relative effectiveness of the tests and procedures had been studied.

Development of the Navajo Rehabilitation Project Program

The grant proposal, a research and demonstration project, was approved and funded by the Vocational Rehabilitation Administration on March 1, 1963, for a period of four years. These federal funds provided mainly for salaries. Almost all other financing of the Project was left to the participating agencies. Efforts were made to obtain inter-agency cooperation throughout all aspects of the Project. Developing a workable financial and service structure for the Project was essential for planning services which could continue after the Navajo Rehabilitation Project was completed. In outline, the service structure of the Project follows:

1. Medical aspects of client care were provided through facilities of the United States Public Health Service.
2. Client transportation was provided by funds from the State Division of Vocational Rehabilitation, Bureau of Indian Affairs Employment Assistance, or the Project.
3. Client maintenance was funded through the State Division of Vocational Rehabilitation.
4. Dependent family members of the client were served by County Departments of Welfare.
5. Housing and dining facilities were provided on the college campus.

Evaluation Services and Other Services Provided

Thus, the Navajo Vocational Evaluation service program was established, but, in order to evaluate clients, other services had to be provided. For example, preparing a program and offering services for clients does not make clients available for services. Recruiting Navajo rehabilitation clients to evaluate presented very special problems. Thus, as soon as the evaluation program was developed, intake procedures to secure a more or less steady flow of clients were needed.

Intake Services

Ultimately, therefore, the Intake Counselor position was established. Intake service ranged from a letter to the client asking for identifying information, to an investment of fifteen work days by the Counselor in case preparation. Such preparation could include two or more trips to the Reservation for interviewing and gathering information, contact with the referral agency, arranging appointments, welfare applications, and transportation for the client, and, in many cases, handling personal problems during the evaluation period. The Intake Counselor spent additional hours working on Reservation placement and case follow-up after the evaluation period was completed.

Intake functions were to (1) secure medical review and medical approval for each client to qualify him for rehabilitation services, (2) gather relevant social, educational, and employment history to give the Navajo Rehabilitation Project staff a more detailed picture of the individual client and his specific problems, physical limitation, and job interests, (3) establish procedures for handling medical problems of clients enrolled in the Navajo Rehabilitation Project, (4) establish procedures for providing supplementary maintenance for clients brought to Flagstaff for evaluation, including housing, meals, transportation, and usually welfare assistance, (5) keep referral agencies and clients informed of case development on all referrals.

In addition to intake responsibilities the Intake Counselor (1) instituted follow-up studies on clients who had completed evaluation and returned home to the Reservation or who had dropped out of the program for various reasons, (2) assisted in the development of audio-visual materials to be shown at Navajo Chapter Houses for better community understanding of the Navajo Rehabilitation Project services, (3) during the initial interview with the client on the Reservation observed and recorded information and assisted the research staff in collecting data on Navajo views of disability and Navajo treatment of disabled family members, (4) assisted in locating training and job placement opportunities on the Reservation.

Orientation, Socialization, and Social Evaluation

After client application forms were processed and clients were accepted for services, they were brought to Northern Arizona University where the Residence Guidance Supervisor assumed the responsibility for orienting them to living in Project facilities. Clients lived for a time in housing officially on campus, but specially provided for them in an undeveloped part of the campus, and in housing purchased by the University for expansion. Also used for a period was an abandoned college infirmary. After these buildings were moved off campus, the clients lived as they had at the beginning of the Project, in a motel.

The purposes of the social adjustment program in the Navajo Rehabilitation Project were to facilitate the personal and social adjustment of the client and to evaluate the relevant social and personal characteristics contributing to vocational success. The majority of the Navajo Rehabilitation Project clients were limited in off-Reservation experiences, and their adjustment process upon entering a rehabilitation project was considerably greater than that experienced by the average rehabilitation client. The social adjustment program was aimed at familiarizing Navajo clients with aspects of the dominant United States culture useful to them for their future progress. The social adjustment program provided another Project aim; it provided a setting for evaluation of social and personal characteristics determining vocational success.

The Personal Adjustment Counselor, whose position was later re-defined and labeled Residence Guidance Supervisor, was responsible for the progress of the clients while they were in evaluation. The duties of the Residence Guidance Supervisor included orientation, counseling, recreation, and assistance with miscellaneous client problems. At the completion of each client's vocational evaluation, the Residence Guidance Supervisor wrote a social evaluation report on the client.

When the client arrived on campus, the Residence Guidance Supervisor met the client and introduced him to the remaining staff members. The client was settled in the Rehabilitation dormitory and then given a tour of campus and a tour of Flagstaff.

The Residence Guidance Supervisor was also involved in counseling with the client in areas related to social adjustment. Some of the topics covered were job interests, desired places of employment, attitudes toward employment, and problems that might arise in living in a city, such as rent, utility payments, and food costs, care of personal and public property, courtesy, personal responsibilities, personal hygiene and rules of conduct, homesickness, discipline and drinking problems.

Recreation activities were provided for the clients while they were in evaluation. These included sports, crafts, games, excursions, picnics, and movies. Many of the activities were arranged as client-staff get-togethers, which provided a means of becoming acquainted with the clients on an informal basis, as well as information useful for a social evaluation of the client.

There were part time dormitory supervisors who lived in or right next to the dormitories of the clients. They supervised the physical environment, and provided additional on-the-spot counseling and orientation. They were also responsible for informing clients about dormitory regulations, and stimulating social interaction and activities.

During the service phases of the Project an interpreter was employed to help in all phases of interpreting Project functions, and to aid communication between the client and the counselor, or client and examiner. The interpreter fostered communication among the clients.

During the last eighteen months of the Project, after drinking was recognized as a problem which interfered with the rehabilitation of many clients, an Antabuse control program was instituted for client problem drinkers.

The social evaluation report was compiled from information gathered through interviews and informal conversations with the client, and from observations made of the clients during recreational activities, in the dormitory, in the evaluation areas, and on field trips. The report usually contained information on personal appearance of a client, his interests, his behavior and personality, problems connected with his disability, and the recommendations of the Residence Guidance Supervisor about future plans for the client.

One of the primary contributions of the social evaluation report to the complete evaluation of the client was an estimate of the client's social skills and personality characteristics. The social report was used to determine what personal characteristics the client possessed that would foster or hinder job success. It was also of value in corroborating test results and observations from the other evaluation areas.

Psychological Evaluation

After orientation, clients commenced the routine of psychological evaluation which consisted of interviews and tests. The Psychological Evaluation Area was manned by a psychometrist and then, during the more active service stages of the program, supervised by a psychologist. Most of the tests were administered by the psychometrist, but the psychologist was responsible for writing the psychological report. During the last year of the Project, the Project Director supervised the psychological report writing; and if projective tests were needed, the Project Director administered and made clinical interpretations of them. The battery included standardized intelligence and aptitude tests, interest inventories, and personality tests. (See Casto, 1967, Monograph Number 5,).

The objectives of the psychological testing program were similar to those of a typical "Anglo" testing program. The tests provided information for evaluation, research, prediction, observation, and personality traits. Further objectives of the Navajo Rehabilitation Project testing program included the development of a battery of tests which would produce the desired results, as well as the development of norms or criteria which produce accurate, effective evaluation of Navajo clients.

The objectives of evaluation encompassed many areas:

1. The assessment of one's general ability level;
2. The determining of specific and generalized vocational and educational interests;
3. The determination of specific aptitudes and specific abilities and manipulative skills;
4. The discovering of the psychological needs and personality structure.

Evaluation provided useful information of an individual's abilities to counselors and employers. It helped to determine what vocational or educational situation the client would most enjoy and would find success in.

Another testing objective was to perform research. The testing program's purpose was to determine what methods, techniques, and procedures of evaluation in use were appropriate and effective for vocational evaluation of people in the Navajo culture.

In research it was important to determine those specific influences which effected the overall validity and reliability of the instruments used. Notable items in this area were English language deficiency, lack of comprehension of test items and tasks to be performed, and the unfamiliar testing situation. It was important that the examiner watch for the influence of these sources of error and note their importance in the interpretation of test results.

The use of a Navajo interpreter in administering the tests introduced the possibility of coaching, giving away answers, loosening of test directions, and a tendency toward interpreting answers producing lenient scoring. Interpretations of test results had to take into account these sources of test error.

The order and manner of presenting the psychological instruments was important. The examiner, during the establishment of rapport with the client, decided which tests would be given first and the manner in which they would be presented. A shy individual required a non-threatening, performance type test with much encouragement and verbal reinforcement. Others could start much as any "Anglo" would start, with verbal, group-type tests.

An overlapping objective of the testing program was that of prediction. The immediate purpose of testing was diagnosis or evaluation to predict the appropriate training or vocational performance of each client.

Often it was of greater importance to observe an individual in testing rather than to rely wholly upon tests scores. Important to observe in the testing situation were the method or approach to tasks, the plan of response, the degree of persistance, anxiety reactions, the economy of motion, logical or systematic problem solving, eye-hand coordination, learning ability, stamina under extensive physical requirements, and apparent interest in the task.

Determining emotional and personality structure became difficult with the Navajo population because of their different world view, cultural background and environment.

The instruments used for personality evaluation were standardized on an "Anglo" population. Yet, through enculturation, Navajos have partly shared attitudes and beliefs with "Anglos." It was from more "Anglicized" clients that valid and fair application could be made of the personality instruments. Some tests administered were appropriately interpreted for some Navajo clients.

Pre-Vocational Evaluation

Concurrently with the psychological evaluation, Navajo Rehabilitation clients entered Pre-Vocational Evaluation and Educational Evaluation lasting from two to six weeks. They were in each area half a day, and were taken out of either area periodically for psychological evaluation.

One of the primary purposes of the Pre-Vocational Laboratory was to develop techniques for the vocational evaluation of disabled Navajos. The Laboratory used a work sample technique based on the TOWER System of the Institute for the Crippled and Disabled. Some of the TOWER tests were used in their original form; others were modified to suit the Navajo client group. Also, special techniques developed in the Laboratory were tried for effectiveness.

The objectives of the Pre-Vocational Laboratory were to evaluate as many aspects of each clients' vocational abilities as possible, to observe and report on the physical and mental limitations of each client, and to introduce many varied samples of vocations and tools to the client.

The Laboratory evaluation included a personal interview, eye examinations, dexterity tests, practical examinations, and work sample tasks. The major part of the evaluation was devoted to the work sample tasks including drafting, clerical, woodwork, leatherwork, rock work, machinery, plumbing, and sewing. The abilities, aptitudes, and interests of the client were noted by the Evaluator, and included in a Final Pre-Vocational Evaluation Report.

Educational Evaluation

The purpose of the Navajo Rehabilitation Project Educational Evaluation was to evaluate the functional achievement level and learning ability of the client. An evaluation of the clients' functional school achievement level was valuable in the total evaluation process because it offered information about the types of jobs which the client could perform adequately.

Evaluation in the educational process usually consists of measurement with standardized tests to determine the educational progress of the individual or class over a period of time. Navajo Rehabilitation Project Educational Evaluation consisted of making a preliminary assessment, using a detailed achievement test battery, then engaging the client in remedial instruction, and re-testing him with the achievement test battery.

The preliminary assessment included a personal interview, and testing on the Wide Range Achievement Test and the Gilmore Oral Reading Test. If the clients' reading scores were at least at the third grade achievement level, they were then given the Iowa Tests of Basic Skills, a more complete test of the client's school achievement. After several weeks of remedial instruction, the clients were re-tested on an alternate form of the Iowa Tests; achievement test scores were then compared for significant gains.

Clients who made significant gains on the second form of the test were considered to have benefitted most from the remedial instruction. If the skills of a client were already fairly adequate or of recent experience, the instructional results had to be studied carefully, because a client who had recently been in school or who had received a greater amount of education would be likely to gain less or nothing over a short period of time. Clients who were severely under-educated or who had forgotten a great deal of what they had learned in school would probably be the most likely to gain in achievement level with a brief period of remedial instruction. Through the observations made and the work completed in the classroom, the Evaluator obtained other valuable qualitative information about the attitudes and abilities of the client that could not be ascertained through the use of achievement tests.

The evaluation procedures were modified for clients who could take only the preliminary achievement tests or who did not know enough English to take any of the tests. The evaluations of these clients had to be made primarily from data collected from working with the individual in the classroom, and was, thus, more subjective in nature.

Placement Procedures

After evaluation and observation of the client in the various vocational evaluation areas, including an interview of the client by the Placement Counselor, a general staffing of the client was held. In these general staffings, the client's case was discussed by the entire staff and, when he could attend, by the Division of Vocational Rehabilitation Counselor. The discussion usually included the client's own stated interests, his background, social and family history, past work record, other significant information available about the client, and the client's performance in the various areas of evaluation. Also included were any factors believed to have a bearing on the client's chances for vocational success. Based on all these considerations, the staff made a decision as to whether the client was classified non-feasible or feasible for employment.

The client was classified non-feasible when the evaluation indicated that he had little or no chance for vocational success in any field. If the client was classified non-feasible, he was usually sent home and generally received little further training or job placement services from the Project. However, attempts were made to follow-up and determine the client's progress after services were terminated.

The client was classified feasible for employment when he demonstrated the ability and motivation to succeed in one or more vocational fields. If he was classified feasible, the staff would make a recommendation for placement in an appropriate area. Generally, the recommendation was made for broad vocational areas rather than for any specific kind of job or work. This gave the Placement Counselor leeway in placing the client. It was then up to the Placement Counselor to locate and arrange placement for the client.

If there was any question as to whether the client had the physical capacity to handle the placement, it was generally necessary to obtain a work tolerance report. This was a form from a physician which stated that the client could or could not do the work. The physician's decision had to be affirmative before the Placement Counselor could actually place the client.

After the placement of the client, the Placement Counselor followed the client's progress and tried to insure the client's vocational success. Help was given the client to work out problems which might have an effect on his chances for success. The Placement Counselor counseled with the employer or trainer to help work out problems the employer saw as possible stumbling blocks for the client. Attempts were made by the client, the employer, or the counselor to anticipate problems. If the placement was in a training setting, once the client completed training, it was the responsibility of the Placement Counselor to help the client find suitable employment.

Not all clients were employed in the procedure just described, but the majority of them were. Even with the "usual" clients the procedure had to vary from individual to individual. Some clients were able to place themselves with little or no assistance from the Project, but even these clients were offered follow-up services if they chose them. In any event, although they were not always successful, the Placement Counselor or other staff did try to maintain contact with and follow-up the progress of all clients.

Coordination of Services

During the most active phases of the Project the responsibility of the Case Services Coordinator was to supervise all the functions in detail and to be sure that all case services were completed. He also performed many of the functions of a Vocational Counselor. It was his responsibility to summarize the detailed reports from each evaluation area, and under the supervision of the Director, to write a coordinated final report to the referring agencies.

Coordination of Efforts Among Agencies

The second major function of the Navajo Rehabilitation Project was to help coordinate agency efforts and to foster more complete involvement of referral agencies in Navajo vocational rehabilitation. Prior to the establishment of the Navajo Rehabilitation Project, the Federal and State agencies involved in rehabilitation efforts with disabled Navajos attempted to serve cases within their individual framework. In 1963, these agencies established, with the Project as a catalyst, a coordinated program of rehabilitation, with the individual agencies assuming appropriate service responsibilities. Coordination of services and involvement of agencies was facilitated by a workshop and several day-long conferences, through numerous individual contacts with participating and referral agencies by the Intake Counselor, the Director, and other staff members, through letters written to these agencies, and through brochures describing the program and explaining the process of referral. One brochure was designed for referral agencies and the Northern Arizona University faculty. The other was illustrated to attract non-professional and prospective client interest.

As mentioned earlier, the Public Health Service assumed responsibility for restorative, health, and social work services. When the client was eligible, the Bureau of Indian

Affairs Welfare, Navajo Tribal Welfare, or county welfare personnel agreed to continue financial support to the client during his rehabilitation process. If the family of the client was eligible for aid to dependent children, it received this financial aid from the county welfare office. The Navajo Rehabilitation Project and Division of Vocational Rehabilitation each assumed responsibilities for evaluation services and program planning. The Navajo Rehabilitation Project, Division of Vocational Rehabilitation, and Bureau of Indian Affairs Branch of Employment Assistance implemented educational services, prevocational and vocational training, and aided in job placement.

Specific referral procedures were established so that the referring agencies would understand what preliminary steps needed to be completed before the client could enter evaluation, where to send referral forms, and how to arrange transportation for the client.

Communication among agencies was a problem during the life of the Project, primarily because many agencies in many different areas of Northern Arizona were involved, and it was difficult to solve specific problems via letter or telephone conversation. Several meetings of the agencies involved were arranged by the Project in order to discuss problems and clarify the responsibilities of each agency in the rehabilitation process.

Research Goals and Hypotheses

The Project staff experienced the usual conflict of action - research projects between service aims and research aims. As long as services are rendered, immediate human needs must be met. Thus, from a research point of view the staff became over-involved with meeting the Project service demands and client needs. It sometimes was actually distracted from the research goals; some pertinent research procedures were ignored, and vital data went unrecorded. It was much easier, when service functions were completed, and while data was being analyzed, to perceive what procedures should have been followed, what data should have been gathered, and what hypotheses should have been explored in order to draw experimentally validated conclusions.

Many of the early recognitions of the Project staff were that certain goals and purposes listed under the "Purpose and Rationale" of the Project Report and purposes and hypotheses generated during the rendering of services would have to be answered by tentative, subjective, impressions, sometimes as hypothetical as the original hypotheses.

However, from the beginning relatively complete case history material was gathered, particularly through the completion of intake forms. Counseling interview notes were continuously kept. Test data collected during psychological evaluation was recorded. Records were kept of training and placement, and of on-the-job training. This data, also, will be useful for future research.

One of the primary research goals was to determine if, through rendering rehabilitation evaluation and other vocational rehabilitation services to disabled Navajos, they could be placed successfully on jobs in greater numbers than before such services were rendered. Another important research goal was the development of a psychological evaluation procedure for disabled Navajos. Selection of tests appropriate for vocational evaluation of Navajos was a primary part of this research goal. At first the Psychological Evaluation Area chose and collected data on a large number of standardized tests. The aim was to reduce the number of tests as information on Navajo client performance accumulated. The Educational Evaluation and Pre-Vocational Laboratory developed techniques for evaluation, and gathered normative data for the tests given in these areas.

Another aim was to reduce the entire time required for the evaluation of Navajo clients as more knowledge of Navajo rehabilitation was gained, and as more effective evaluation procedures were established.

Another aspect of the evaluation aim was the study of counseling techniques with Navajos to evaluate them more effectively, and to understand better the communication process in the cross-cultural setting.

The Relationship of the Navajo Rehabilitation Project to Other Agencies

As mentioned earlier, to the partially informed and occasionally involved agency, the Division of Vocational Rehabilitation was difficult to separate from the Navajo Rehabilitation Project. The two organizations worked in close cooperation. Of the 118 clients evaluated by the Navajo Rehabilitation Project, the overwhelming majority (102) were also clients of the Division of Vocational Rehabilitation. The Navajo Rehabilitation Project clients remained Division of Vocational Rehabilitation clients during the Project evaluation and while they were trained or placed on a job. Naturally, then, Navajo Rehabilitation Project clients who were evaluated had to meet all of the requirements for Division of Vocational Rehabilitation services.

As other Division of Vocational Rehabilitation clients they had to complete Division of Vocational Rehabilitation forms, medical examinations, and physical restoration treatment before they became clients of the Navajo Rehabilitation Project. Thus, the Project Intake Counselor was in many ways acting as an extension of the Division of Vocational Rehabilitation in informing agencies and prospective clients of the Division of Vocational Rehabilitation services, and helping them complete forms and encouraging them to meet the other requirements. The Intake Counselor participated in the conference with the Division of Vocational Rehabilitation Counselor and the consulting physician of the Division of Vocational Rehabilitation when they made determination for admission to the roles of the Division of Vocational Rehabilitation and possible immediate referral to the Navajo Rehabilitation Project for evaluation.

At the conclusion of the evaluation, in determining job or vocational training placement, the Counselor for the Division of Vocational Rehabilitation was often involved in the final staff meeting of the Navajo Rehabilitation Project. In the meeting he helped determine the final recommendation, and often assumed primary responsibility in carrying out the recommendation. The Navajo Rehabilitation

Project Placement Counselor often worked with the Division of Vocational Rehabilitation Counselor on the actual problem of follow-up after the person had been placed in training or placed on the job.

Sometimes the three county welfare offices first referred prospective rehabilitation clients to the Division of Vocational Rehabilitation, and other times, referred them directly to the Navajo Rehabilitation Project which, in turn, referred them to the Division of Vocational Rehabilitation for processing and re-referral to the Navajo Rehabilitation Project. As mentioned, when a client had dependent family members, the county welfare office continued to assume dependent family member financial responsibility.

On several occasions staff members believed that the referrals of clients from welfare offices were made in order to remove temporarily an individual from the welfare roles in order to place them on the Division of Vocational Rehabilitation case roles. Several of these referrals appeared completely unfeasible for employment, thus offering justification for this staff suspicion.

Some clients also felt that referral was made by welfare offices to the Navajo Rehabilitation Project as a punitive device in order to remove them from the welfare roles temporarily or permanently. It is possible that the motives of the welfare workers on these few occasions were misjudged by the staff or by the client.

Also, as mentioned earlier, the University was the center for Project activities. There were efforts made by the Project staff to inform the faculty and students of the Project. There was some question by some faculty of the appropriateness of offering rehabilitation services in the University environment. However, the Navajo Rehabilitation Project and the Rehabilitation Center have provided a useful, instructional setting for psychology, sociology, and education students. The Project and Center have also served as sources of training and research.

The relationship of the Project to the Public Health Service, the Bureau of Indian Affairs and its different offices, Arizona Employment Security Commission, Arizona Blind Services, Goodwill Industries, private business, and missions is, for most readers, probably adequately described earlier in this Report. However, for more details, see Avallone, (1967, Monograph Number 3) and Sanchez, 1967, (Monograph Number 9).

CHAPTER III

METHODOLOGY

Methods Used to Determine the Effectiveness of the Different Functions of the Navajo Rehabilitation Project

The question of service effectiveness in an action-research project is ever-present. However, a systematic, well-controlled validation study of the effectiveness of all phases of a service and demonstration program appears impossible to design. Nonetheless, efforts were made to determine the effectiveness of many phases of the Navajo Rehabilitation Project. Even though many variables had to be ignored, a comparison of conditions before and after the Project was used to determine Project success. This comparison of increased services and increased inter-agency cooperation and effort generating more appropriate referrals, limited in validity as they are, must act as important and practical criteria of over-all Navajo Rehabilitation Project success.

The Anthropologist was used not only to interpret ethnographic information to the staff, but the Project was used by the Anthropologist as a source of information on Navajo illness and disability. The anthropologist's sources of data were the Project case files, staff observations, and notes from Navajo clients, communications with anthropologists and other students of Navajos, and already published studies. No ethnological fieldwork was done by the anthropologist on the Navajo Reservation. The research functions of the anthropologist were to gather data and report on the ethnological aspects of disability among Navajos.

Neither was there a quantitative approach to the study of counseling Navajos, but direct observations were made by staff members of counseling relationships, of counseling behavior, and of counseling communication. The report of these impressions, therefore, relied on empirical and not experimental methods.

Other functions of the Project, however, were subject to more objective and quantitative validation procedures. Certainly, enough data was gathered on some psychological tests to partially validate the effectiveness of some evaluative procedures for disabled Navajos.

A Quantitative Description of the Population Served

The Representativeness of the Population Sample

Intake services were rendered to 258 disabled Navajos. Of these, 118 completed enough of the program to provide some evaluation. Obviously, the conditions determining acceptance for services, limited as they were by rules and regulations of the Division of Vocational Rehabilitation and the purpose of the Project, indicate that the Navajo population served was not representative in all ways of the total Navajo population. However, a major problem was maintaining a flow of clients in order to gather enough data for valid research. Therefore, every eligible Navajo applicant was accepted. Thus, the service demands of the Project precluded consideration of selecting clients solely on a representative basis. Such factors as transportation difficulties, personality characteristics which would influence the referral sources to refer given clients, and the attitudes of the referring people exerted controls on who ultimately received services. Despite these considerations, while the Project clients were not representative of the _total_ Navajo population, there are reasons to believe that they were representative of the _total_ _disabled_ Navajo population.

Characteristics of Project Clients

The number of referrals per agency during the Navajo Rehabilitation Project operation was:

Division of Vocational Rehabilitation	63
Bureau of Indian Affairs, Branch of Welfare	54
Navajo Tribal Welfare	2
Bureau of Indian Affairs, Branch of Employment Assistance	16
United States Public Health Service	36
County Welfare Office	23
Arizona Blind Service	15
Social Security Administration	10
Self-Referrals	10
Non-Agency Referral (Other than Client)	6
Private Hospital	2
Private Service Agency (Non-Hospital)	1
Other Sources (Public School, Navajo Tribe, etc.)	4
Undetermined Source because of incomplete case information	16
Total Number of Referrals	258

The type of disabilities represented by 258 clients that received intake services were:

1.	Disability caused by accidents, amputation of limb resulted	16
2.	Disability caused by accidents, no amputation	29
3.	Post Tuberculosis	29
4.	Epilepsy (Diagnosed or not)	12
5.	Rheumatic Heart	7
6.	Polio	2
7.	Brain Damage	1
8.	Birth Defect	7
9.	Congenital hip dislocation	16
10.	Blind or near blind	15
11.	Deaf	9
12.	Emotional Problem or Mental Retardation	25
*13.	Other Disability	35
**14.	Unknown or non-existent	54

*Asthma, arthritis, etc., would be included in this category.

**Disability not recorded because referral was inappropriate, client did not respond to contact by Project, or case referred closed because no disability existed.

Following is a classification of Intake services rendered:

1. 258 Navajos received some form of services;
2. 140 received Intake service only;
3. of this 140, 102 were referred closed as ineligible or non-feasible for rehabilitation services;
4. the remaining 38 were receiving active Intake service in November of 1966;
5. 118 Navajos received evaluation services.

Of the 118 clients evaluated by the Project, 95 had more than one disabling handicap and 86 were referred by two or more agencies. Disabled Navajo Indians entering the Project were usually single males, between 20 to 35, with a total range of 16 to 59 years. Most came from large families with 5 to 10 siblings. Of the 118 clients evaluated by the Project, 88 were males and 30 were females. While the actual percentage of disabled men to women on the Reservation is unknown, more disabled men are known to agency personnel, and more men than women are, by Division of Vocational Rehabilitation rules, eligible for rehabilitation services. Therefore, men were more frequently referred for rehabilitation services than women. Many unmarried, disabled clients lived with their parents, siblings, or other clan relatives, and their welfare checks were an important part of the cash income for the family unit.

Project intake policies determined some of the characteristics of the clients accepted for evaluation, particularly age, area of residence and kinds of disabilities. Known problem drinking, communication skill, degree of physical or mental handicap, motivation, attitudes, and previous attempts at rehabilitation were considered prior to acceptance. One major problem was that, for many clients, this Project was a last resort after many other services had been tried. The Project received many referrals who were vocationally unsuccessful in other programs, and this lack of success was reflected in the referral statistics. One hundred eighty-one clients were referred by two or more agencies. These double referrals came from Tribal Welfare and Bureau of Indian Affairs Employment Assistance, Welfare and Public Health Service, County Welfare, and County Public Health. This pattern of repeated failure was often reflected in client motivation, personal commitment, dependency, a self-negating frame of reference, and other negative client attitudes.

Other frequent client characteristics included lack of communication skills, homesickness, shyness, cultural outlook on length of employment, the necessity of frequent trips to the Reservation, excessive consumption of alcohol, lack of personal cleanliness, non-hygienic habits, and according to the "Anglo" value system, an inability to use leisure time effectively and constructively. Most were active and slow to display anger.

Methodological Problems

Factors Limiting the Validity of Tests

The administration of tests and the interpreting of test results for any population, highly different from the standardization population, presents difficulties. Navajos, with the exception of perhaps the Alaskan natives, are the most distinctly different, large ethnic group inhabiting a large geographic area in the United States. Navajos are about as culturally and linguistically different from "American" test norm groups as a group can be. For a great proportion of Navajos, English is a second language, and also English is as unrelated to the traditional Navajo language as any language can be. Traditional Navajo culture, also, is about as different from the culture of the vast majority of American people as a culture can be. Thus, the techniques used in administration and interpretation of tests can not be derived simply from techniques used in interpreting test results of other disadvantaged groups.

However, in stressing the differences of Navajos, any methodology must also look for similarities between populations. Certainly, the Navajos have many linguistic and cultural similarities to other Apache groups. They certainly have much in common in background with other American Indian groups, and they also have some similarities to other disadvantaged people, for example, the Appalachian poor, the Lapps, certain Mexican groups, and the Greenland Eskimos (Weller, 1965; Lewis, 1961; Hogstedt, 1967, Pp. 49-51; Højlund, 1967, Pp. 52-53). Many Navajos have daily contact with "Anglos" and most Navajo children now attend "American" schools.

The difficulties presented in interpreting psychological tests may be overcome partially through a clinical rather than a purely actuarial approach to test interpretation. From interview and case history data, one can make an estimate of an individual's enculturation. If the psychologist can make a fairly accurate estimate of the enculturation of a Navajo, he can often interpret test results with some validity. If a Navajo who has lived in a town surrounding the Reservation or in one of the populated administrative centers, and if he has completed a number of years of schooling, test interpretation for him is quite different from interpretation for another Navajo who had lived in a remote area of the Reservation, speaks English limitedly, and has had very little education. A given test could be a valid measure for one Navajo and not for another. A clinical interpretation demands judgement of when and to what degree a test score has meaning.

The Question of Control Groups

Because of the immediate service demands, the Navajo Rehabilitation Project was not *in toto* a "scientific" experiment.

There were no over-all control or experimental groups *per se*. But there were some attempts to compare the Navajo Rehabilitation Project clients with Preparatory Training Project clients who were also Navajo, and who were also served by the Northern Arizona Rehabilitation Center, but were not disabled. There were some attempts to compare Navajo Rehabilitation Project clients with the Navajo Gallup Community Problem Drinker Project population. However, the Gallup Project staff was unable to acquire a large enough sample of non-alcoholic Navajos because the history of the people in the hospital where they attempted to get this sample was so greatly composed of people with drinking problems that too few met the control criteria. Thus, they abandoned the attempt to acquire a non-alcoholic, normal, Navajo, control population.

In some studies, the standardizing population in developing test norms functions as a control group. However, for reasons described above, when dealing with a Navajo population, such a procedure is often fraught with error.

Staff Attitudes and Service Demand Sources of Error

Certain methodological problems arise in trying to compare two groups. For instance, an attempt was made to determine, if through correspondence, clients could be selected as effectively as through personal contact. The Reservation was divided into two sections--the Western part of the Reservation which would be individually contacted; and the Eastern, which would be contacted only by telephone and by written correspondence. However, the inflow from the Eastern part of the Reservation appeared to drop off so rapidly that even this kind of controlled procedure was abandoned. Perhaps it was abandoned before it was given trial; or perhaps, expected failure of the correspondence program led the staff to neglect those aspects of it which would make it effective.

Some Evaluation Areas Collected Data More Reliably than Others

As simple as the recording of data on developed forms would seem, there were some significant lapses in data collection. During the entire Project, nonetheless, test data was recorded diligently and completely. There was almost no deviation in recording Intake data on the Intake forms for the last year and one-half. During the last two years, the Social Evaluation and the Education Evaluation data collection was diligently recorded. However, because of frequent turn-over of personnel in the Pre-Vocational Laboratory, much of the pertinent data was not recorded. Often in the Pre-Vocational Laboratory, when objective scores should have been recorded, subjective impressions were given. Actually, recording forms and/or procedures were outlined for the recording of data in every area; but, experience with the forms led to revisions, and thus, some changes with time in the kind of data collected. Thus, the data recorded depended upon the area, and the evaluation of recording forms, the training and diligence of the staff in following specification, and the amount of service distraction from the research tasks.

Qualifications of Personnel Gathering Data

The qualifications of personnel gathering and recording data in many of the positions varied with the turn-over in personnel and the demands of the position. During the last three years of the Project all of the psychometrists had completed courses in group testing, in individual intelligence testing, and all held Masters degrees in Counseling and Guidance often with an emphasis on testing.

During the last two years of the Project, the Pre-Vocational Laboratory had the greatest turn-over of personnel and the least formally educated personnel of any evaluation area. For the last year of the Project, a college senior majoring in vocational education was in charge of Navajo Rehabilitation Project clients in the Laboratory. The year before a graduate student in vocational education was in charge. Prior to that there was a range of training from graduate to seniors in vocational education, and even a counseling major served as a Pre-Vocational Evaluator for a period in the Laboratory.

The Educational Evaluation Area during the last year was manned by a psychology graduate. She was proceeded by a man holding a Masters degree and he was an experienced teacher.

The Research Specialist held a Doctorate in Education. He had experience in teaching mathematics and statistics; he was trained in research; and he was a qualified computer data programmer and processor.

Methods of Data Analysis

Most of the pertinent data were recorded on forms which, in turn, were placed on IBM data processing cards. Many hours of programming and computer time were used.

In comparing different test populations, means, extremes and standard deviations were used and significance tests were applied to these differences. When comparing the results of individuals on one test with their relative performance on others and comparing relative test scores with rating scores, rank-order correlations were used. The rank-order correlation was used in order to obviate objections to the possible non-linearity of the data. Several tests were item analyzed to determine the relative usefulness of all the items in those tests. Some tests were submitted to a factor analysis. Casto, in Monograph Number 5, describes the procedures for the construct validation of some tests. During the last two years, after tests had been factor analyzed, a number of tests which overlapped in function with others were eliminated. The chi-square technique was used as a test of significance to compare rate of wages and degree of job skill with duration of employment.

Discriminate analysis, as described by T. W. Anderson (1958) was used to study the predictability of general ability test scores for three separate conditions of the work situation. (See Casto, Monograph Number 5.) The three conditions, fully described later in this Chapter, were length of time on the job, level of skill needed on the job, and hourly wage.

Selecting Appropriate Tests

Initially, in a partial "shotgun" approach to test selection, a great number of tests were studied, and apparent appropriate ones were administered. The original list and the procedures used to select the effective tests are described in Casto (1967, Monograph Number 5). Then some tests were eliminated because mere attempts to administer them were frustrated. The attempt to administer them proved the obvious inappropriateness of these tests for the Navajo population. One reason for test inappropriateness was that some Navajo subjects could not understand the English directions. Furthermore, to administer some of these tests with an interpreter obviously invalidated them. Other tests were eliminated after they proved to add little or nothing to the factors measured. The statistical analysis of the tests involved factor-analytic techniques in order to establish construct validity of the test for the Project client population. In general, tests with the highest factor loadings were retained in the Project evaluation battery. A further tentative test validation study of the predictive validity of the tests was made by use of the previously mentioned discriminate analysis technique. The procedures and results of these studies are reported in more detail in Casto (1967, Monograph Number 5 of this series).

Meaningfulness of Data from Different Areas of Study

There was hope that all evaluation techniques could be analyzed by either construct validity or predictive validity methods. However, in many areas, the data which was gathered limited a meaningful analysis. As mentioned before in this Chapter, the anthropological information was non-quantitative in nature and, therefore, could not be statistically analyzed. Particularly the Pre-Vocational Laboratory and the Social Evaluation Areas presented data analysis problems. The Social Adjustment Evaluation was mostly subjective and non-quantitative. However, the Educational Evaluation and the Pre-Vocational Evaluation Areas presented some quantitative data for validation. The objectivity, the amount of data, and thoroughness of recording in the Psychological Area made it the most effective quantitative research area. Test validation studies with this data were possible. Thus, the very techniques of measuring and of recording in the Psychological Area made it possible for validation studies in this area to have more meaning than the other areas.

Criteria of Project Success

Criteria of Project Over-all Success

An indisputable criterion for the success of the total Navajo Rehabilitation Project cannot be established because many uncontrolled factors were probably operating during the Project in the country and in Northern Arizona which would have increased the number of disabled Navajos vocationally rehabilitated. The preparation of the Project itself reflected one environmental change which was an indication of the increased need for services to disabled Navajos. Therefore, to claim that the increase in disabled Navajos placed on jobs was a sole function of the Project would be a gross exaggeration. However, beyond the added number trained and placed on jobs, more disabled Navajos were evaluated during the operation of the Project than during any previous period. Without the services rendered by the Project, it is extremely doubtful whether these services would have been rendered. If they were, some other organization would have to have been established to render them. In this sense, then, the next Chapter is here anticipated by the judgement that the Navajo Rehabilitation Project was a "success."

Criteria for Client Success

The criteria for rehabilitation success of clients was based on the number of days worked, and the percentage of days worked after completion of evaluation. The criterion of number of days worked was categorized into (1) worked 90 days; (2) worked 30 days; (3) worked one day; and (4) worked not at all. The percentage of time worked was categorized (1) worked 75 per cent of the available time; (2) worked 50 per cent of the available time; (3) worked less than 50 per cent of available time; and (4) worked not at all.

Testing Instruments Used

The staff attempted to administer at least one appropriate test in each of the following areas: intelligence, vocational interest, aptitude, achievement, personality, and special ability. In the intelligence or general ability area, most clients completed at least two tests. During the last year and a half of services, the battery was divided into groups of tests to be used with readers, and another group of tests to be used primarily with non-readers.

Appendix A shows the revised Navajo Rehabilitation Project battery used in the last phases of the Project. Studies made by Casto (1966 and 1967, Monograph 5) demonstrated that many of the general ability tests overlapped so greatly that it was of little value to keep them in the battery. As a result of this study, the Wechsler Adult Intelligence Scale was retained. Even though there was factoral overlap in the use of the three tests retained, the Raven Progressive Matrices and the Revised Army Beta tests were kept in the battery for research purposes. Some of the eliminated tests had little more overlap than some retained, and with another population or with a repeat of the same population, these rejected tests might have functioned as well as some of the tests not eliminated.

The General Aptitude Test Battery, because it is so widely used in job placement and because it was made available to the Project freely, was the aptitude test chosen. In the last months of service practically no other general aptitude test was administered.

Among the interest inventories, if the person could read adequately, both the Kuder Personal Preference Schedule and the

Strong Vocational Interest Blank were used; if they were non-readers, the California Picture Interest Inventory and the Geist Picture Interest Inventory were used. As the titles of these last two tests indicate, vocational interest of the person is purportedly measured from pictures which depict people engaged in certain activities. Ordinarily, the manner of response is to choose a picture from a group of three.

Again, if the person on achievement tests proved capable of reading at the appropriate grade level, the Minnesota Multiphasic Personality Inventory was administered to him. Under similar conditions, the Edwards Personal Preference Schedule was sometimes used. The list in Appendix A indicates that the Bender Gestalt and the IES Test, a clinical research tool, purportedly designed to measure the relative strength of impulses, ego, and superego forces, were used. However, with other research and service demands, the last Director of the Project discontinued their use as research instruments. However, when the Wechsler subtest arrangements suggested possible central-neural involvement, the Bender continued to be used to further explore the organic hypothesis.

As the description of the population indicates, especially for the non-enculturated or slightly enculturated Navajo, many of the testing instruments were not applicable. For some clients the test scores were probably non-predictive of future performance because of the difficulty many Navajo clients had with the English language and because of their difference from the standardization population in cultural concepts. Invalidity for one ethnic group does not mean that these instruments with other populations would be invalid. Furthermore, although a test may not be valid in measuring differences between ethnic groups, some tests can be effective in comparing individuals within a group. However, interpretation of comparative test results within a population not characteristic of the norm group must be made with great caution. Nonetheless, there was an attempt to accumulate data and to validate certain tests and subtests for comparisons within the Navajo Rehabilitation Project population.

CHAPTER IV

NAVAJO REHABILITATION PROJECT OUTCOMES AND EFFECTIVENESS

In order to determine the effectiveness of the Navajo Rehabilitation Project, each area will be discussed in order, and then the general purpose and specific purposes will be reviewed to determine the effectiveness in light of these purposes. For more detail in analyzing the effectiveness of the different phases of functions of the Project see the Monographs which specifically deal with these topics.

The Anthropological Study of Navajo Disability

Since there was no anthropologist during the last year of the Project, his conclusions were based on data that was accumulated up to March of 1966, and thus, did not include all Navajo Rehabilitation Project clients. From a survey of the literature, through study of case files of Project clients, through observing and notes of the staff, through communicating with anthropologists and other students of Navajo life, and through study of the published literature on the Navajos, the Project anthropologist concluded that etiologies and treatment for what in "Anglo" society are usually defined disabilities do not always have the same connotation among Navajos.

Some disabled Navajos may partially provide economic functions for the family without restoration or special training. Some illnesses have supernatural connotations which may be foreign to modern medical treatment procedures. Some disabilities have negative supernatural connotations; others, such as hip dislocations which may be a result of cradle-board swaddling, have little connotation of disfigurement. Injuries resulting from automobile accidents probably have little differences in cultural connotations between Navajo and "Anglo" societies. It would thus be generally accurate to state that certain disabling conditions are heavily laden with culturally pre-determined connotations and patterns of behavior, while others are relatively not; and, therefore, procedures of rehabilitation treatment should be modified accordingly.

The reactions of the individual or his family members to the disability depends upon a disabled individual's physical appearance, his economic role in the group, and the length of time he has been disabled. Health image seems to be less affected by an arrested or "cured" ailment such as tuberculosis than by congenital limb deformities or multiple conditions. Today perhaps an attitude of ambivalence best describes the general Navajo attitude toward disabled persons. Traditional negative attitudes have not been discarded, but with the change in economic role of handicapped individuals, a more positive attitude may simultaneously exist. Older conceptualization of the disabled individual may have been "softened" because of changes in economic status of these people, western medical technology, directed cultural change programs such as eradication or vaccination projects, missionizing efforts, and governmental work programs. It appears that younger persons, especially those with mental retardation, multiple or communication disabilities, are protected by families.

Among factors which affect client and family reaction to disabilities and rehabilitation efforts, it seems that marital status, age, job history, and severity of disability are inter-related. Other aspects such as level of acculturation, super-natural connotations, or home location, seem not to be as important singularly as the cluster listed above. The client who is of a mature age, with a family and adequate job experience, but without an obvious, visible disability, seems more likely to possess an accepting or accommodating attitude toward his disabilities and toward rehabilitation than the younger, single client. While this may seem obvious, economic and other factors which influenced individual reactions have turned some psychologically positive client characteristics into negative characteristics in terms of rehabilitation success. Single clients in all disability groups present a less homogeneous generalized pattern than married clients; but nearly all exhibited shallow motivation, had only limited work experience, and held neutral or negative attitudes toward their disabilities and rehabilitation possibilities. There seems to be little participation by the single clients in modern Navajo courtship patterns, and nearly all married clients were married before the onset of a disabling condition.

Important in changing the economic role of the disabled is the system of welfare payments. With disability payments or other income sources present, Navajos may not fear a disabled person or his supposed malevolent efforts, but may still view the person as "incomplete", the opposite of a positively valued personal image. Thus created are ambiguities and ambivalences.

The new positive economic role of the disabled individual is not often conducive to rehabilitation since he may feel his welfare income is sufficient, and may not want to leave his Reservation home for rehabilitation evaluation and training.

Level of enculturation as reflected by English skills, work habits, and education is an important factor, of course, but perhaps it is more important on an individual basis rather than being a characteristic of any one group of clients. It has been noted that similar attitudes are often shared by clients in low, intermediate, and high acculturation levels. The acculturation differences between a majority of the clients is most probably small, and the sample of these differences is, therefore, undoubtedly biased.

Conclusions Drawn From Intake Services

Experience in the Intake Area showed that personal contact by a counselor could effectively handle the problems of intake, interview, transportation, welfare assistance, and information gathering necessary to prepare and present a case for determination of eligibility.

The question, when intake requirements had been met, of individual, staggered client entry versus group entry at scheduled periods arose. Both methods were tried. When scheduling group entry, experience proved that it was advisable to prepare a group of ten to twelve cases in order to assure a workable group of five or six for the allotted time period. This method represented many hours of work by the Intake Counselor, and proved only partially effective since clients who did not enter at the scheduled time had to be handled on an individual basis anyway. Individual versus group entry resolved itself by staff acquiescence to client behavior it could not control. Entry occurred when the client was ready and free to come.

Individual intake, when each individual case was ready, offered a much more efficient use of the counselor's time, allowed closer contact with the client, and supplied a more steady, regulated flow of clients to the Project.

The counselor had to keep in mind cultural practices, which determined the availability of the client for evaluation. Spring planting, lambing, shearing, harvest time, fair or rodeo time, Pow Wow time, or the availability of ten-day Tribal Work Projects, were often deciding factors in the client's availability for rehabilitation services.

Experience also showed that entry date for clients should be set well in advance, and follow-up letters sent to both the client and the referral agency as reminders of the approaching date.

The additional responsibilities of the counselor-- gathering information for anthropological research, getting direct information on client's home environment and family attitudes toward the client-- were fulfilled when the Intake Counselor made Reservation trips for interviewing the client, and contacting referral agencies. The counselor was the only staff member who had the opportunity to gather such information without another staff member making a special trip. Also, the Intake Counselor often served as the Placement Counselor while making these long Reservation trips.

Experience also proved that the Intake Counselor must be able to present in precise detail the total picture of rehabilitation, its process and goals, to the client and his family. He must also function as an information dispenser to the Reservation agencies. Difficulties in performing this function are compounded by personnel turnover at the various agencies. Therefore, information dispensing is a continuing process of revisiting the agencies, and repeated presentation of this information to the new personnel.

Counseling Navajo Indians

Effective Counselor functioning demands an acquaintance with the varied and different concepts of Navajo culture and customs. An ability to understand and work within this framework will enhance his effectiveness in case preparation. Navajos, as with the close-knit mountain people of Appalachia, (National Institute of Mental Health Conference Report, 1964, Pp. 6-7) are often suspicious of outsiders who say they want to help them. If they find soneone conversant with their language and customs, they are more willing to listen to and accept the service.

Poverty and other social inequities create in Navajos cultural and personality characteristics that are similar to other disadvantaged groups. Yet, Navajos have unique cultural, social, linguistic, and thinking patterns. Some who are genetically "pure" Navajos are typical middle-class Americans in language, education, and culture. Nonetheless, Navajo is the first language for most Navajos. Some do not understand or speak English, some have no formal education, and few have completed college. There are great differences then, in the amount of enculturation. The more enculturated the Navajo client, the more likely is the relationship similar to any other counseling situation.

Some common conditions of the counseling relationship with Navajos are as follows:

1. Broken appointments are more common with Navajo clients than with others. When the Navajo client does return to see the counselor, it will usually be for help with an immediate problem. It will almost certainly be a request for something other than help in gaining psychological insight.

2. The Navajo client will usually view the counselor as an agent for solving immediate practical problems-- medical, social, or economic-- rather than as an agent of personality or psychological change.
3. The counselor may be perceived as the authority who offers rewards or metes out punishments, or grants or withholds welfare requests. For the Navajo client, the expectation of the counselor role is that of an authority similar to other "white man" authorities in his past. This "white man" may be seen as supportive or authorative; he may be seen as the conqueror and enemy of the Navajo people, or as the dispenser of government "debts" to Indians.
4. For the non-Navajo counselor of Navajos, language is a nearly insurmountable barrier except with enculturated Navajos. Few Navajos learn to speak English as well as non-Navajos of equal intelligence and formal education. The Navajo language itself carries many verbal and cultural connotations which are impossible to translate into English. When an interpreter is used, it is highly difficult to attain true counseling rapport.
5. It takes longer to establish rapport with Navajos than with usual clients. Navajos generally withdraw psychologically when they are anxious, rather than to cover up the anxiety by talking. They are generally more withdrawn in the early contacts. The Navajo counselee may be seen at this time as the sterotyped passive Indian. In later counseling sessions, when rapport is finally achieved, there is more apparent personality change in terms of friendliness and joking than with most non-Indian counselees.
6. Because of the already mentioned attitudes, and because of other culturally determined personality characteristics, positive transference is difficult to inspire, and the verbalized psycho-dynamic content is often superficial. Few Navajos reveal their innermost thoughts or describe their behavior in psycho-dynamic terms.
7. Social, economic, and educational obstacles to positive counseling outcomes are frustrating to both the Navajo client and his counselor.

These comments may sound as if counseling Navajos is ineffective and unrewarding, but it is the difficulties found in the counseling relationship that are stressed here. If the cultural-personality differences are anticipated and accepted, and if stereotyping is avoided, constructive, warm, satisfying counseling relationships develop.

Results of Validating a Test Battery for Navajo Rehabilitation Clients

Ability Test Results

As mentioned in Chapter III, during the first two years of the Navajo Rehabilitation Project, a "shotgun" approach was used to obtain test data on the disabled Navajo client group. Many different measures of general ability were used, including the Wechsler Adult Intelligence Scale, the Revised Army Beta, the Arthur Point, the Kent E.G.Y., the Columbia, the Leiter International, the Raven Progressive Matrices, the Goodenough Draw-A-Person, and the Healy II. Using the results obtained up to early 1966, after factor analysis, the test battery was greatly reduced. This study indicated that many of the intelligence tests were measuring the same abilities. Several tests with the least factor loading were eliminated from the battery, and the tests with the highest factor loadings were retained. This intercorrelation matrix is in Appendix B.

The general ability tests which remained in the battery were the WAIS, the Revised Army Beta, and the Raven. In Appendix C is a correlation matrix for these remaining tests. Also, the use of the General Aptitude Test Battery was added for reasons explained in Chapter III.

At the conclusion of the Project, the Wechsler, the Revised Army Beta, and the Raven tests were submitted to a factor analytic study. Four factors were found to contribute to 99.999+ per cent of the total variance found on these test matrices.

Of the total variance of the matrix for the three tests, 32.2 per cent was accounted for by the first factor. This factor is non-verbal and correlates highly with the following tests:

1. Raven Total Score (r= .86).
2. WAIS Performance (r= .81).
3. Beta "What Is Wrong" subtest (r= .79).
4. Beta "Maze" subtest (r= .72).
5. Beta "Similarities" subtest (r= .61).

The second factor accounted for 25.4 per cent of the total variance of the tests and is correlated with these tests:

1. Beta "Digit Symbol" subtest (r= .81).
2. Beta Total (r= .81).
3. WAIS "Picture Completion" subtest (r= .57).
4. WAIS "Object Assembly" subtest (r= .56).
5. WAIS "Vocabulary" subtest (r= .54).

The third factor accounted for 23.1 per cent of the total variance and correlated negatively with the following tests:

1. WAIS "Information" subtest (r= - .78).
2. Beta "Picture Completion" subtest (r= -.71).
3. WAIS "Arithmetic" subtest (r= .70).
4. WAIS "Comprehension" subtest (r= -.69).
5. WAIS "Digit Symbol" subtest (r= -.57).

The fourth factor contributed to 19.3 per cent of the total variance and correlated with these tests:

1. WAIS "Picture Arrangement" (r= .83).
2. WAIS Total (r= .69).
3. Beta "Spatial Relations" (r= .67).
4. WAIS "Information" (r= .54).
5. WAIS "Picture Completion" (r= .46).

There appeared to be serveral interesting combinations in the above factor analysis. One is the high negative loading on factor three of the WAIS Information subtest, and a moderate positive loading of this same subtest on factor four. Another is that on factor two the measures with the four highest

FIGURE I

PROFILE OF MEAN SCORE OF NAVAJO REHABILITATION PROJECT CLIENTS ON THE WECHSLER ADULT INTELLIGENCE SCALE

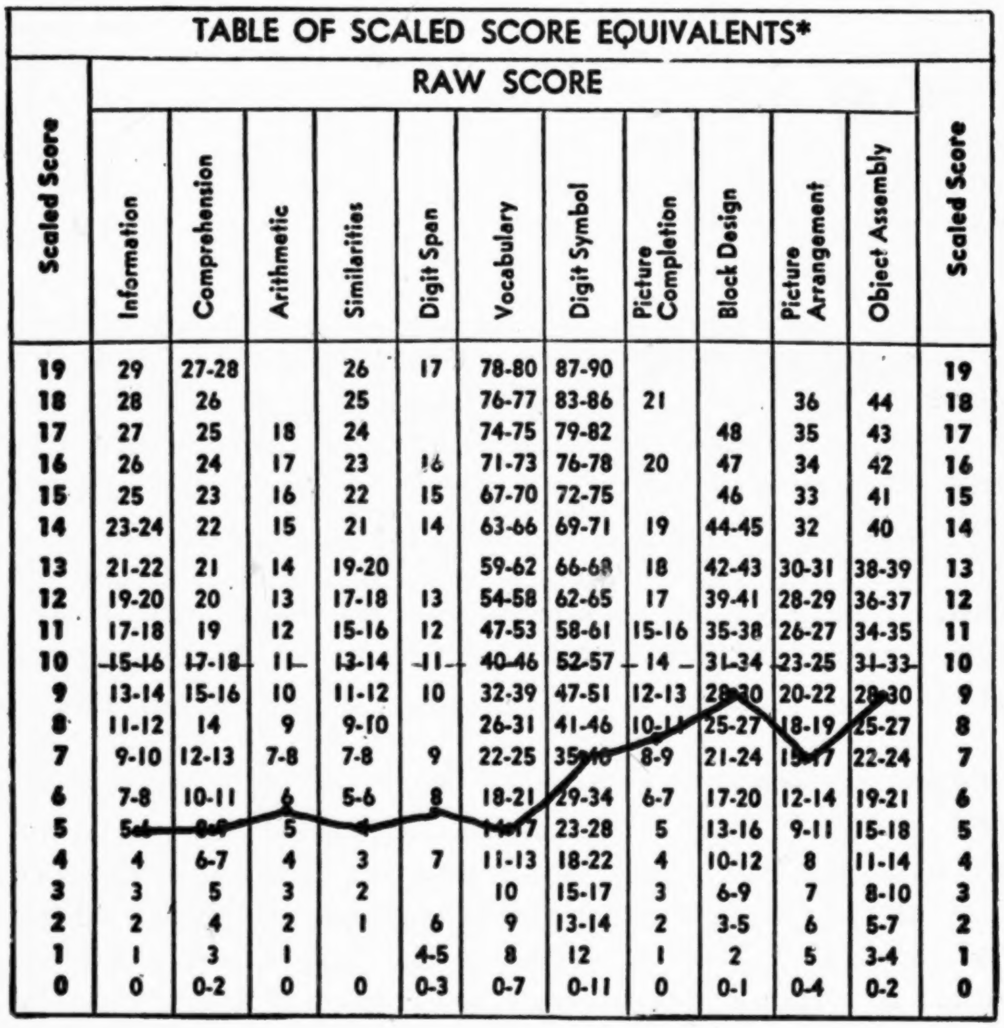


TABLE OF SCALED SCORE EQUIVALENTS*

Scaled Score	RAW SCORE Information	Comprehension	Arithmetic	Similarities	Digit Span	Vocabulary	Digit Symbol	Picture Completion	Block Design	Picture Arrangement	Object Assembly	Scaled Score
19	29	27-28		26	17	78-80	87-90					19
18	28	26		25		76-77	83-86	21		36	44	18
17	27	25	18	24		74-75	79-82		48	35	43	17
16	26	24	17	23	16	71-73	76-78	20	47	34	42	16
15	25	23	16	22	15	67-70	72-75		46	33	41	15
14	23-24	22	15	21	14	63-66	69-71	19	44-45	32	40	14
13	21-22	21	14	19-20		59-62	66-68	18	42-43	30-31	38-39	13
12	19-20	20	13	17-18	13	54-58	62-65	17	39-41	28-29	36-37	12
11	17-18	19	12	15-16	12	47-53	58-61	15-16	35-38	26-27	34-35	11
10	15-16	17-18	11	13-14	11	40-46	52-57	14	31-34	23-25	31-33	10
9	13-14	15-16	10	11-12	10	32-39	47-51	12-13	28-30	20-22	28-30	9
8	11-12	14	9	9-10		26-31	41-46	10-11	25-27	18-19	25-27	8
7	9-10	12-13	7-8	7-8	9	22-25	35-40	8-9	21-24	15-17	22-24	7
6	7-8	10-11	6	5-6	8	18-21	29-34	6-7	17-20	12-14	19-21	6
5	5-6	8-9	5	4		14-17	23-28	5	13-16	9-11	15-18	5
4	4	6-7	4	3	7	11-13	18-22	4	10-12	8	11-14	4
3	3	5	3	2		10	15-17	3	6-9	7	8-10	3
2	2	4	2	1	6	9	13-14	2	3-5	6	5-7	2
1	1	3	1		4-5	8	12	1	2	5	3-4	1
0	0	0-2	0	0	0-3	0-7	0-11	0	0-1	0-4	0-2	0

loadings are non-verbal, while the test with the fifth highest loading was the Vocabulary subtest of the WAIS. To really follow through with these relationships, and to assign verbal labels to these factors, requires computer facilities beyond the capabilities of those available to the Project staff during the grant period. Therefore, at present it is unproductive to speculate.

Tables and graphs have been included to summerize the results of all clients who took the different tests. On the Wechsler, the Navajo Rehabilitation Project client group scored significantly below the standardization population at the .01 confidence level. Their mean Verbal I.Q. was .74, their Performance I.Q. was .88, and their Full Scale I.Q. was .78. On the Revised Army Beta, the Navajo Rehabilitation Project clients made a mean I.Q. score of .88, similar to their Performance score on the Wechsler. This score was again significantly below (.01 confidence level) that of the standardization population. The Navajo Rehabilitation clients scored at the 22nd percentile on the Raven.

Forty-six subjects were available for the discriminate analysis. By using this statistical analysis, it was found that in predicting percentage of client time worked, the use of general ability tests (WAIS, Revised Army Beta, and the Raven) scores was totally ineffective. Thirty-one of the forty-six were misclassified by the discriminate function. It is reasonable to conclude that there are too many factors other than general ability which contributed significantly to length of time on the job.

This type of analysis proved much more effective when applied to the level of skill needed by Navajo Rehabilitation clients on the job. Six of the seven clients who were in skilled jobs were correctly identified by the general ability tests, twelve of thirteen of those in semi-skilled positions were placed in appropriate categories, and thirteen of twenty-two in unskilled jobs were correctly classified. It should be noted that these results are spuriously high because the test results were used by the Project staff in deciding into what job the client should be placed.

The third area of investigation was that of hourly wage. As mentioned in Chapter III, there were four categories: (1) less than one dollar, (2) at least $1.00, but less than $1.50, (3) at least $1.50, but less than $2.00, and (4) $2.00 to $3.00. As would be expected from the ending comment in the paragraph above, the results for predicting these categories were very good. Thirty of the forty-six subjects were correctly categorized and only three individuals were classified as much as two categories away from their true classifications.

In developing predictors in any situation, one must be conservative in interpretation. The prediction equations are based on a posteriori information. The equations must be validated with new subjects before they can be considered generally useful. A further condition would be that the test results of the validating sample should not be used by the staff for determining the job level skill of the person being placed.

In comparing mean scores of the Navajo Rehabilitation Project clients with those of the Navajo men in the Preparatory Training Project at Northern Arizona University, the Preparatory Training Project clients were significantly superior. A comparison was first made in 1965, at the close of the Preparatory Training Project. The means, the standard deviation, and the significance of the differences in means are reported in the following table:

	P.T.P.	S.D.	N.R.P.	S.D.	Signi. Differ.
WAIS Verbal	81.00	10.42	71.26	15.05	.01
WAIS Performance	99.68	12.22	88.30	13.52	.01
WAIS Full Scale	88.28	9.93	78.00	12.87	.01
Beta	105.53	9.49	90.70	14.85	.01

Furthermore, the mean WAIS Verbal I.Q. for the total Navajo Rehabilitation group tested increased insignificantly from 71 in 1965, to 74 in 1966; whereas the mean Performance I.Q. remained at 88, and the mean WAIS Total I.Q. remained at 78. Thus, the differences between these two groups remained constant.

A further comparison of data for these groups indicated that the Navajo Preparatory Training Project group scored significantly higher and their standard deviation was smaller than the disabled Navajo group. In this way the Preparatory Training Project clients were more homogeneous. They were also more homogeneous in that they were approximately the same age, and had completed at least the ninth grade, as already indicated. Navajo Rehabilitation Project clients were a disabled group, and varied widely in age, educational level, and degree of enculturation. Though their scores were lower than the norm groups in the verbal area and higher on the Beta Test, the mean scores for the Preparatory Training Project clients more closely resembled those of the average population. Test results for the Navajo Rehabilitation Project and Preparatory Training Project clients indicated that both Navajo groups performed more adequately on performance than verbal tests. They scored highest on the Block Design subtest of the Weschsler. These results are consistant with the Kluckhohn & Leighton (1947, Pp. 148-155) report. They found that Navajo children who had been to school averaged an I.Q. of 102.5 on the Grace Arthur Point Performance Scale, and those who had not been to school had an average I.Q. of 79.8. Their results indicated that schooling had an effect in improving scores on this performance test. On verbal tests, differences in culture, educational attainment, and English language ability are a handicap to a Navajo group. These tests may not be measuring the same things for Navajos as for the standardization population, and have limited meaning with Navajo clients.

A conclusion drawn from testing Navajos is that they should be compared with members of their own cultural group. In order to follow this injunction, and in order to respond to Project experience, a Test Standardization Project is being conducted at the Northern Arizona University Rehabilitation Center. The aim of this Project is to develop test norms for the general Navajo population, and for other Northern Arizona cultural groups.

Results of the General Aptitude Test Battery administered to Navajo Rehabilitation Project clients indicated, on the average, they scored significantly below the standardization population. On spatial abilities they performed best (36th percentile), but still significantly below (.05 level of confidence) the average population. A Table comparing the standard scores for Navajos with those of the standardization population is in Appendix D.

Interest Inventories

Several interest inventories were given to the Navajo client group, including the _California Picture Interest Inventory_, the _Geist Picture Interest Inventory_, and the _Kuder Preference Record_. Profile sheets indicating the average Navajo interest patterns on the _California_ can be found in the Appendix. On this test the clients indicated the greatest interest in the business area. They also scored highly in the aesthetic and verbal interest areas. In interpreting profiles based on mean scores, the differences exhibited on the profile are conservative since the standard error of the mean is inversely proportional to the sample size and is, therefore, much smaller for the group than for the individual. Profiles for the _Kuder_ and the _Geist_ were not included because the Navajo Rehabilitation Project vocational interest and personality data was not divided into male - female groups, but the published individual profiles were.

Correlation coefficients were computed for the relationships between the three interest inventories. The _California Picture Interest Inventory_ Interpersonal interest score correlated -.55 with the _Geist_ Mechanical interest score. The _CPII_ Verbal interest correlated -.73 with the _Geist_ Mechanical interest. The _CPII_ Natural interest correlated .59 with the _Geist_ Out-Of-Doors interest scale. The Mechanical interest scales on both tests correlated .58 with each other. These correlations appear to be consistent with the titles of the interest categories; however, the correlations are so low that while they are measuring some of the same factors they are obviously also measuring different factors. A correlation matrix for the _California Picture Interest Inventory_ - _Geist_ relationships is in Appendix D.

Some significant correlations were found between the Kuder and the California Picture Interest Inventory, but the number of clients taking both tests was too small to make any conclusions regarding these relationships. One significant correlation was found between the Kuder and the Geist. This was a -.45 correlation between scientific interests on the Geist and clerical interests on the Kuder

Personality Tests

The two most frequently used personality tests in the Navajo Rehabilitation Project were the Minnesota Multiphasic Personality Inventory and the Edwards Personal Preference Schedule. Scores on these tests may be invalid because of the reading difficulty level required by the tests. On the Minnesota Multiphasic Personality Inventory the Navajo clients scored high on the Schizophrenia Scale and on the Depression Scale. However, these results may be invalid since the male - female averages were grouped together, and the average F scale score for the Navajos was quite high. This high score indicates that the clients did not adequately understand the test questions.

On the Edwards Personal Preference Schedule, the Navajos scored exceptionally high (between 75th and 80th percentile) on the Succorance Scale. This scale purportedly measures a need to be cared for by others. They scored above the 60th percentile on deference, order, and change, and below the 40th percentile on need for achievement, exhibition, autonomy, dominance, heterosexuality, and aggression. A profile sheet for the average Navajo disabled client group is in Appendix E.

A correlation matrix for the relationships between the Minnesota Multiphasic Personality Inventory and the Edwards was computed and can be found in Appendix E; an intercorrelation matrix for the MMPI is also in the Appendix. On the MMPI, the Psychasthenia Scale correlated .87 with the Schizophrenia Scale, and .70 with the Psychopathic Deviant Scale. Schizophrenia and Psychopathic Deviant were also correlated .70. Also, the Schizophrenia Scale correlated .72 with the F Scale. This correlation raises the possibility that there is a spurious function which contributes to Navajo Rehabilitation Project client scores on both of these scales. Thus, for Navajo disabled clients, the high scores on the Schizophrenia Scale may not indicate the actual prevalance of schizophrenic characteristics.

Results of the Educational Evaluation

One of the purposes of the Educational Evaluation was to investigate some of the relationships between achievement test results and other relevant factors. This investigation used rank-order correlation coefficients. All the correlations mentioned in this part of the _Report_ were significant at least at the .05 level of confidence.

1. All of the verbal tests on the _Wechsler Adult Intelligence Scale_ correlated .36 to .73 with actual years of formal education completed by the clients. Two performance measures, Digit Symbol and Block Design, also correlated positively with years of school completed.
2. A correlation of .76, significant at the .01 level, was found between years of formal education and achievement scores on the _Iowa Tests Of Basic Skills_. Even though this and other positive correlations were found, it was noted that a considerable discrepancy existed between actual grade completed in school and grade placement of the achievement tests. One of the general characteristics of Navajo clients was that grade placement scores calculated from the achievement tests were significantly (at .01 confidence level) below actual grade completed in school. For the clients who completed achievement tests, the average grade they completed was 8.0, while their achievement grade on tests was 5.0.
3. A number of significant (at .05 level of confidence), positive correlations were found between both verbal and performance intelligence scores and grade placement on the _Iowa Tests of Basic

Skills. It appeared that the intelligence tests were, to a large degree, measuring learning.

4. Of the twenty-two people who completed the Iowa tests sixteen, or seventy-three per cent, made a composite score gain. Of these sixteen, eleven, or sixty-nine percent made significant composite score gains. The average composite score gain for the total group was 0.3 of a year; the average composite score gain for those who made significant gains was 0.6 of a year. Most of the clients (ninety per cent) made significant gains on at least two of the subtests. Apparently most of the clients did benefit from the remedial instruction.
5. There were several significant correlations (.05 level of confidence) relating some of the intelligence measures with gains in achievement. Gains in the total language achievement area correlate negatively with some of the intelligence measures. These correlations indicated that students who performed poorly on the intelligence measures made, in general, the most significant gains in language achievement.
6. No significant relationships were found between years in school and gains on the Iowa Tests of Basic Skills.

In the Educational Evaluation most Navajo Rehabilitation Project clients operated scholastically several grade levels below their actual completed grade in school. The average grade completed by the total Navajo Rehabilitation Project group was 6.6, and some of the clients had no formal education. As a group, by formal standards, the clients were severely under-educated, and they were in need of adult basic education. The fact that most of the clients made achievement gains at the end of their evaluation period indicated that they could benefit from remedial instruction. Thus, the Project was instrumental in indicating the need for an adult basic education program. The Department of Rehabilitation has since established the Pre-Vocational Educational Program to provide instruction in academic and social skills.

Clients Observed by the Residence Guidance Supervisor

As observed by the Residence Guidance Supervisor, some of the more frequent problems Navajo clients exhibited were misunderstanding the evaluation process, homesickness, intemperate alcohol consumption, and English language handicaps.

Many of the clients were unfamiliar with the concept of evaluation, and did not understand the reason for the psychological tests. They had difficulty understanding why they needed to perform job tasks in the Pre-Vocational Laboratory which they did not like or which were difficult. Frequently, the clients entered the Project with the idea that they would immediately be placed on a job; they could not understand the need for the intervening evaluation process.

Homesickness appeared to be related to Navajo close family ties which, especially in an unfamiliar and demanding environment, make it difficult for them to be away from home.

Clients who could speak and understand little English often had the most trouble adjusting to the evaluation environment. Though a Navajo interpreter was used to give instructions and to explain the purpose of the evaluation activities, clients with a formidable language barrier were usually the most psychologically-isolated clients.

One of the Project's most serious problems was the drinking problems of Navajo clients. Frequently, a client went to one of the local bars and was jailed for drunk and disorderly conduct. Though consumption of alcohol on the college campus was forbidden, drinking parties at the dormitory nonetheless occurred. Because of considerable permissiveness, only six clients were dismissed from the Project for drinking. However, many clients who finished evaluation did have a problem with alcohol, and later had trouble keeping jobs because of this problem.

During the last two years of the Project, an Antabuse treatment program was encouraged for clients considered to have an alcohol problem. This program proved effective with several clients who committed themselves to it.

Results of Pre-Vocational Evaluation Methods

The results of administering several widely used tests, indicated that in the Pre-Vocational Laboratory, Navajo Rehabilitation Project clients performed more slowly than the standardization population. However, results on the O'Connor Finger Dexterity Test (O'Connor, 1926) indicated that Navajo clients were faster on this test than the standardization population. The mean score for the average population was 262 seconds compared to the Navajo of 248 seconds. This score placed disabled Navajos at the 68th percentile on these norms. A statistical analysis of the significance of this difference could not be performed because of insufficient standardization data supplied by O'Connor.

On the Minnesota Rate of Manipulation Test (Educational Test Bureau, 1957) Navajos scored at the first percentile on national norms, which was significantly below (at .01 level of confidence) the average population. The mean score for Navajos on the Placing subtest was 188 seconds; for the standardization group the mean was 123 seconds. For the Turning subtest the Navajo mean score was 165 seconds, as compared to the mean for the standardization population of 98 seconds.

The results on these last two dexterity tests indicated that the disabled Navajos had good finger dexterity, but poor gross body dexterity. However, since there is no normative data available for a disabled population, no conclusions of comparative performance with other disabled ethnic groups should be drawn.

On the Personnel Test for Industry (Langmuir, 1954) the Navajo clients scored significantly (at the .01 level of confidence) below the standardization population. The average score for Navajos was 14.41 (21st percentile), while for the standardization population it was 21.1. These results were not surprising, since this test was pre-recorded on tape and penalized those who were English language handicapped.

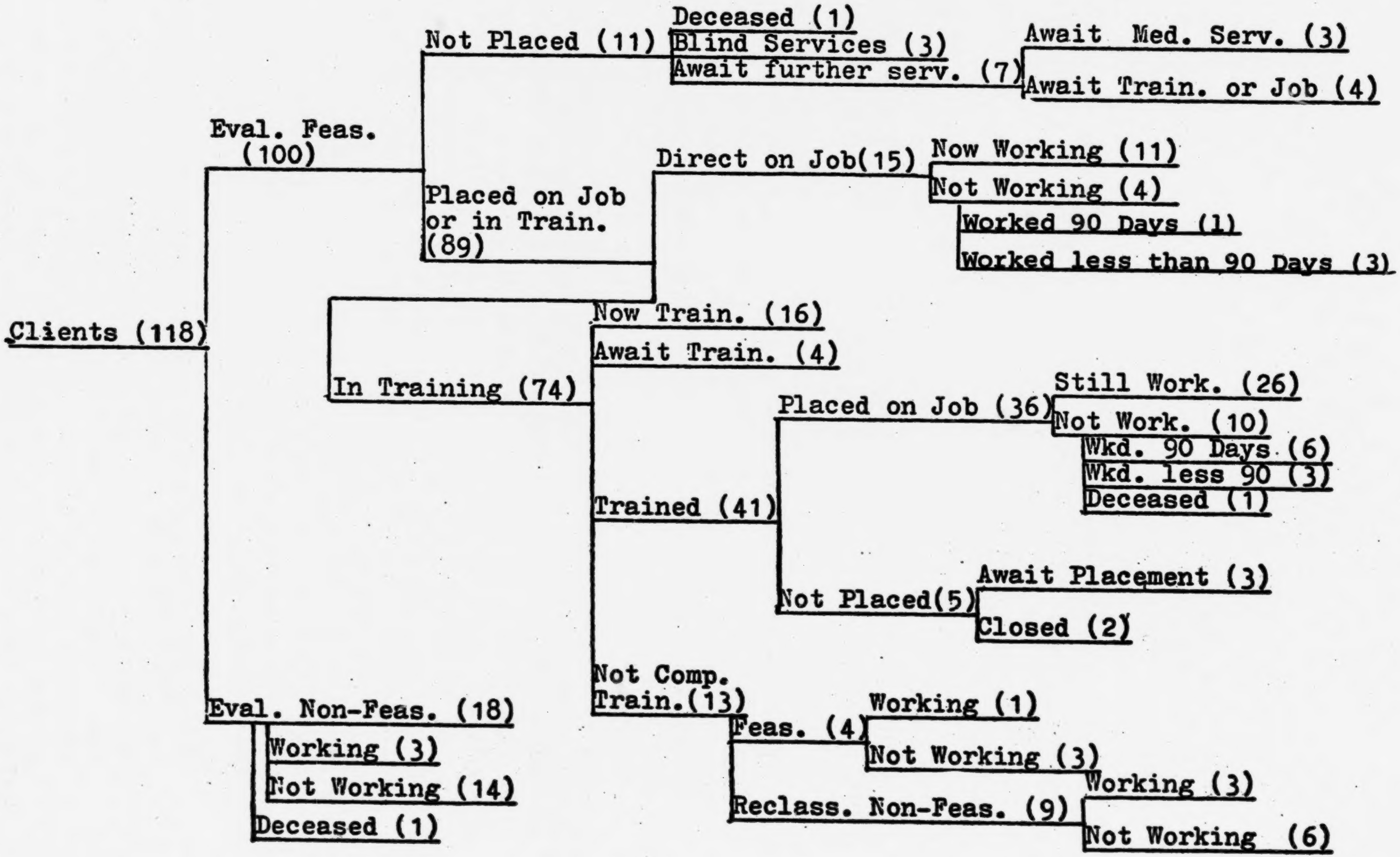
Pre-Vocational Laboratory observations indicate that disabled Navajo clients usually required a longer evaluation period than other rehabilitation clients. More time was required because of client attitudes and cultural differences. The Navajo clients were unfamiliar with industrial settings and job requirements. Since there is limited industry on the Reservation and most clients had worked in unskilled jobs, little of the knowledge gained from the work experiences of most Navajo clients could be transferred and applied in the Laboratory. This lack of vocational experience and knowledge made it difficult for many Navajo clients to know what kind of job they wanted.

The most usual areas of interest for Navajo clients were the artistic fields and hand manipulation tasks. While this observation is consistent with prevelant stereotypes, it is also consistent with their relative success on aptitude tests. For example, the majority of Navajo clients scored highest on the Block Design subtest of the Wechsler Adult Intelligence Scale even though their mean score on this subtest was still slightly below the mean of the average population. Most Navajos appeared to have better than average ability in drawing, sketching, and flat-plane and space perception. They worked competently in such areas as drafting, leatherwork, or jewelry making, and were quite creative in the artistic areas. In the mechanical tasks, disabled Navajo clients scored below average, usually because they had little knowledge of basic mechanical principles.

One of the major cultural differences noted with Navajo clients was a difference in value orientation. Navajos placed more value on a piece of leather or turquoise than on an equally priced piece of wood or metal used in the Laboratory.

Observations in the Pre-Vocational Laboratory led to the conclusion that if interpretations of abilities were made cautiously and if a staff has some knowledge of Navajo culture, many tasks used successfully with other rehabilitation clients could also be used with Navajos. Since there is no standardization data on most of the currently used Laboratory tasks, much of the Laboratory Evaluation was subjective in nature. Standardization data is needed to make the evaluations in the Laboratory more objective and accurate, and more long-term follow-up is needed to satisfactorily validate the Pre-Vocational Evaluation tasks and procedures.

FIGURE II
A FLOW CHART OF SERVICES RENDERED NAVAJO REHABILITATION CLIENTS



Results of Vocational Placement

After completing evaluation by the Navajo Rehabilitation Project staff, 92 of the 118 clients were placed in training or on jobs. Some of these 92 were both placed in training and then later placed on jobs. Figure II, a flow chart of services rendered Navajo Rehabilitation Project clients, graphically presents the disposition of clients who completed evaluation. (For a detailed account of the disposition of these clients, see Monograph No. 9, Sanchez, 1967.) However, the Flow Chart, here, needs some explanation. It indicates that 29 clients were not placed in training and as far as is known have not worked since leaving the Project. Eighteen of these 29 were evaluated as non-feasible, and thus for most of them, no placements were attempted. Furthermore, three of these non-feasible clients were blind, and the primary responsibility for placing them was retained by Blind Services. One client died before placement. Of the non-placed clients, seven were found feasible, but three were waiting for further medical services before they could be placed, suitable placement could not be found for the remaining four. Of the 92 clients placed, 18 were direct on-the-job placements, that is, these clients were placed on a job without the benefit of any Project sponsored vocational training. On the other hand, 74 of the clients placed by the Project were located in some kind of training situation to prepare them for job placement. Of these 74, 41 had completed training at the end of the Project, 4 had completed one phase of the training, 13 started training and dropped-out before completion, and 16 were still in training. Of the 41 who completed training, 36 were placed on jobs after completion of training. Of these 36 who had completed training and were placed on jobs, 26 were still working at the close of the Project. Of the 13 who dropped-out of training before completing it, 9 of these were re-classified as non-feasible after dropping-out because of problems encountered while in training. The other 4 were still considered feasible.

Of the 92 clients placed during the lifetime of the Project, in training or in jobs, 13 received no placement assistance from the Project. The other 79 received placement services from the Project staff. Of those receiving placement services, 59 were placed on jobs, 44 of these were working at the

TABLE I

SUCCESS OF CLIENTS ACCORDING TO THE ARIZONA DIVISION OF VOCATIONAL REHABILITATION, ARIZONA STATE EMPLOYMENT SERVICE AND 90-DAYS EMPLOYMENT*

Category of Clients		Worked 1 day		Worked 30 Days		Worked 90 Days		Closed Cases Not Working		Await Fur. Services***		In Training
	N	N	% **	N	%**	N	%**	N	%**	N	%**	N
ALL	118	59	57.8	56	54.9	54	52.9	29	28.4	14	13.8	16
NON-FEASIBLE	27	6	22.2	6	22.2	6	22.2	21	77.8	0	0.0	0
FEASIBLE	91	53	70.7	50	66.6	48	64.0	8	10.7	14	18.6	16
RECEIVED TRAINING	65	38	77.5	37	75.5	35	71.4	5	10.2	6	12.2	16
RECEIVED NO TRAINING	26	15	57.7	13	50.0	13	50.0	3	11.6	8	30.8	0

*These figures are based on client status as of April, 15, 1967.

** Percentage figures are calculated without counting those in training April 15, 1967.

***Includes those awaiting further medical services as well as services from the Division of Vocational Rehabilitation whose cases are still open.

TABLE II

SUCCESS OF CLIENTS ACCORDING TO THE CRITERION OF PER CENT OF TIME WORKED AFTER COMPLETION OF SERVICES*

Category of Clients	N	Worked 75% of Time		Worked 50% of time		Less Than 50% of Time		Closed Case Not Working		*** Await Fur. Services		In Training
		N	% **	N	% **	N	% **	N	% **	N	% **	
ALL	118	41	40.2	11	10.8	7	6.9	29	28.4	14	13.7	16
NON-FEASIBLE	27	3	11.1	3	11.1	0	0.0	21	77.8	0	0.0	0
FEASIBLE	91	38	50.7	8	10.7	7	9.3	8	10.7	14	18.6	16
RECEIVED TRAINING	65	28	57.2	6	12.2	4	8.2	5	19.7	6	12.2	16
RECEIVED NO TRAINING	26	10	38.5	2	9.7	3	11.5	3	11.5	8	30.7	0

*These figures are based on client status as of April 15, 1967.

**Percentage figures are calculated without counting those in training April 15, 1967.

***Includes those awaiting further medical services as well as services from the Division of Vocational Rehabilitation whose cases are still open.

close of the Project. Some of these 44 had changed jobs and were working at jobs they had found on their own. Of the 59 who were placed on jobs, 7 were placed in jobs classified as skilled, 19 as semi-skilled, and 29 as unskilled. Of the 59 clients placed on jobs, the wage scales ranged from $ .75 to $3.00 per hour.

Judging the success of the Navajo Rehabilitation Project clients is extremely difficult because first, it is difficult to propose a single criterion for successful rehabilitation, second, Navajo and middle-class American values and cultures differ. The Navajo could be successful vocationally in terms of his culture and not successful in terms of general American standards. Table I indicates the success of clients according to the number of days worked. Table II indicates the success of clients according to per cent of time worked after completion of services. The success indicated by the figures in these two tables is similar enough to comment on as a whole. The over-all per cent success was between 50 and 60 (this figure excludes those who were still in training). If clients who were evaluated by the Project staff as non-feasible, and clients who entered training but dropped-out and who were later re-classified as non-feasible are deleted, the success percentage raises to between 65 and 70. The Navajo Rehabilitation Project success ratio compares with Arizona and national averages of about 66 and 69 respectively (The Department of Health, Education, and Welfare Annual Report, 1965). However, the criterion of number of days worked when it is limited to 30 or 90 days is not a measure of job maintenance for a long enough period of time to claim unqualified job success. It would be better to judge a person's success over a period of years. However, because of the limited time of Project operation and because long-term job maintenance was an impossible criteria, client services and follow-up varied from client to client. Therefore, the percentage of time worked by clients after they completed Project placement services was calculated. Table II classifies people according to this percentage of available time criterion. According to this criterion, Table II indicates that excluding those clients still in training at the close of the Project, 40 per cent were high employment successes, 11 moderate employment success, 7 low employment success and 28 failures. However, if clients in the non-feasible categories are deleted, 51 per cent were in the high success category, 11 in the moderate success, 9 per cent in the low, and 11 in the failure category. These figures are especially impressive if it is realized that only 16 out of the 41 clients in the high success category had ever had steady work records previous to sustaining their disability; seven had previously never worked at all; and 18 had only occassional jobs. The relationship between the percentage of available time worked with the amount of pay and the relationship between percentage of available time with the degree of skill demanded by the job were submitted to a chi-square significance test. While there is an apparent tendency for both wages and skill to correlate with length of employment, this study did not show a statiscally significant relationship. Perhaps other studies with longer follow-up periods and with more subjects or wider extremes in pay and skill would show more definite tendencies.

In comparing relative success of disabled Navajo men to disabled Navajo women, note that 89 of the 118 clients were men and 29 were women. Using the percentage of time worked as a criterion for success, women were more successful than men. Excluding those still in training, the percentage of women in the over-all high success category was almost 75. The percentage of men in this high success category was 33. In the no success category, the percentage of women was approximately 17; for men it was 30. A chi-square test was completed for this relationship between sex of client and job success. Women were significantly (at the .01 level of confidence) more successful than the men.

The Effectiveness of the Project in Achieving the Original Purposes

As set out in Chapter I, the general purpose of the Project was to demonstrate that a state college working in cooperation with community agencies and organizations can find methods and techniques to overcome cultural and language barriers in evaluating and training disabled Navajo Indians for placement in jobs on the Reservation. The reporting of results in the Report indicates that while there are still rehabilitation barriers and there were client failures, the Project generally was highly successful. About all of the specific purposes unqualified assertions cannot be made. Therefore, a statement about each one of the specific purposes mentioned in Chapter I follows.

(a) The potentials of disabled Navajos for rehabilitation and for their subsequent adjustment on and off the Reservation have already been adequately described in the Report. Here, however, the generalization from Project experience can be made that the overwhelming majority of the Navajos evaluated had the potentiality for rehabilitation and proved the potentiality by some measure of vocational success.

(b) There was no attempt to determine to what extent disabilities among Navajos constituted more or fewer employment training handicaps than for disabled non-Navajo people, but the number of disabled Navajos evaluated and placed indicated that their disabilities in general appear not to be more disabling than similar disabilities for non-Navajo people. However, under-employment on the Reservation makes many kinds of jobs unavailable, and some criteria of success in comparing Navajos with others may have to be modified because of the difference in culture and the poor economic conditions on the Reservation.

(c) The Navajo Rehabilitation Project results indicated that already developed tests and subtests were appropriate for evaluating disabled Navajo people. All evaluation phases proved effective. It is improbable that anyone has yet demonstrated maximal vocational evaluation for any group. However, the Project did demonstrate that disabled Navajos can be rehabilitated and were rehabilitated at about the same rate as non-Navajo vocational rehabilitation clients.

(d) The purpose of maximal vocational evaluation is an ideal. However, adequate evaluation techniques and procedures were demonstrated.

(e) The purpose of determining the minimal amount of communication skills necessary for effective vocational rehabilitation of Navajos was accomplished because several Navajos who spoke very little English were successfully vocationally rehabilitated. However, some other clients spoke so little English, became so isolated from the other group, and alienated from the evaluation tasks that they had to be sent home as unfeasible. However, lack of English language skill alone need not make evaluation or placement impossible. Yet, the Project results indicated that the more English skills a Navajo has, the wider are his choices of vocation and the more opportunity he has for rewarding vocational placement.

(f) The purpose of exploring how service agencies can better coordinate their services for the successful rehabilitation of Navajos was accomplished in several ways. The results of the Project indicated that individual personal contact, correspondence, and periodic conferences are all useful in effective inter-agency communication and some person or organization must take the primary responsibility for instigating and coordinating agency efforts to rehabilitate disabled Navajos. At the close of the Project, it appeared that the Northern Arizona Rehabilitation Center was looked to by the referring agencies as the responsible agent for fulfilling the communication and coordinating functions. However, if the Northern Arizona Office of the Arizona Division of Vocational Rehabilitation hired the person, and if he were alloted the time to fulfill coordination functions, the Division might best fulfill the coordination function.

(g) The problem of identifying factors which can be used to select Indians on the Reservation most likely to succeed in vocational rehabilitation has been studied by the Navajo Rehabilitation Project. At least some clients who performed well on certain tests and were rated high in other evaluation characteristics could be placed on jobs commensurate with their relative skill and could receive wages consistent with the skill. However, the general ability factors did not seem to be related to length of time on the job. Thus, the problem of identifying these factors has only been partially fulfilled by the Project.

(h) The purpose of investigating family and employer attitudes and reactions to rehabilitation of disabled Navajos and how best to enlist the help of these people in rehabilitation planning can not be answered in any kind of quantitative fashion. However, the Project demonstrated that individual contact of family members and of employers is often necessary for the successful rehabilitation of disabled Navajos.

(i) This Report identified some of the social adjustment problems peculiar to Navajo clients which must be overcome if they are to be rehabilitated. These problems were previously presented in this Chapter and need not be repeated here. However, it is appropriate to assert that the social adjustment problem-identification purpose of the Project was accomplished.

(j) Another purpose of the Project was to explore appropriate placement of disabled Navajos on the Indian Reservation. The Project achieved some success in writing contracts with employers on the Reservation to train and, then, to place the clients if they were successful in training. Here, again, individual contacts of prospective employers by a counselor proved important.

(k) The purpose of investigating job potentials existing for the disabled on the Reservation was to a degree achieved. While there is gross under-employment on the Reservation, while under present circumstances there are not enough positions to absorb the potential Navajo labor market, and while there are many jobs held by non-Navajos because of the lack of preparation of most Navajos for these positions, there is a great demand for Navajos with skills, particularly secretarial, teaching, social service, and administrative. Many of these positions could be filled as well by disabled as non-disabled Navajos.

(l) The last specific purpose, exploring how an evaluation and training unit on a college campus can further facilitate understanding of a different cultural group, was probably only minimally achieved. However, written brochures were sent to the entire faculty, the faculty was invited to come to the Rehabilitation Center and to see in action the functions of the Center. That Northern Arizona University has continued to support an expanding Rehabilitation Center, one function of which is to continue serving disabled Navajos, is testimony to the Project accomplishment of fostering faculty understanding of disabled Navajo needs.

The Results of Efforts to Facilitate and Coordinate Disabled Navajo Rehabilitation

Measuring the success of the Project in facilitating and coordinating agency efforts to rehabilitate disabled Navajos is difficult. Success of the coordinating efforts can be judged, as explained in Chapter III, at least partially by the great increase in disabled Navajos who were ultimately trained and placed on jobs. The numbers of clients served before and after can be used with some confidence as a criterion. The increase of numbers has already been reported, there is no need to repeat them here. While the Project can not be totally credited for this increase, it was responsible for some. Thus, in terms of the best available criterion, the facilitating and coordinating functions of the Project were fulfilled.

The results of the coordination and the facilitation efforts can also be judged by the numbers of people who attended a two-day workshop and three conferences involving these agencies. One was a half-day conference and held in Tuba City; two were day-long and held in Flagstaff. In these last two conferences held at Flagstaff, almost every directly involved and tangentally involved agency was represented. Participants were representatives of the Public Health Service, Navajo Tribe, County Departments of Welfare, Bureau of Indian Affairs Employment Assistance, the Arizona Division of Vocational Rehabilitation, Bureau of Indian Affairs Schools and public schools and other agencies. At the last conference a questionaire was distributed among the participants. Respondents to the questionaire numbered twenty-nine. Of the twenty-nine, all but one indicated that he wanted meetings in the future to coordinate and facilitate communication among the agencies serving the rehabilitation of Navajo Indians. All but one also wanted the Rehabilitation Center of Northern Arizona University to call the meetings. Most of the respondents believed that there should be two or more meetings a year. These responses are testimony from these agencies that the Project fulfilled satisfactorily the facilitation and coordination functions.

CHAPTER V

IMPLICATIONS OF THE NAVAJO REHABILITATION PROJECT ON FUTURE REHABILITATION CLIENTS

Implications on Future Intake Problems

The vast area, sparse population, and multiple ethnic groups in Northern Arizona proved to be a barrier, in the rendering of rehabilitation services, only partially surmounted. The degree to which it was surmounted can be ascribed to the assigning of a staff member to fulfill intake functions. The experience of the Project indicates that there is a need for a full time vocational rehabilitation counselor to coordinate the social service agency functions and to perform intake counseling services with Navajos and other Indian groups of Northern Arizona. A personal contact needs to be made with the agencies and with the prospective client if effective rehabilitation services are to be rendered.

Implications on Psychological Testing

The Project demonstrated that discriminations could be made among the disabled Navajo population to classify clients on a number of tests. It was found that the Wechsler Adult Intelligence Scale Performance, the Revised Army Beta, and the Raven Progressive Matrices effectively identified most disabled Navajos into general ability groups, and with the use of these tests four distinct factors were extracted. In other words, for the disabled Navajo population these tests showed some construct validity. However, the answer to the question of predictive validity is not nearly as clear. It must also be pointed out that a few clients understood English so poorly and reacted to the evaluation so "inappropriately" that they could not be tested. Even though there were only a few such people, they must be considered in generalizing about the applicability of the tests.

The question is raised: Should a test be devised for Navajos made up of items originally derived from their culture and should attempts be made to measure Navajo verbal ability in their first language? It is improbable that such a test will be devised until there are Navajos trained at the doctoral level and experienced in psychological test development and validation. With compulsory universal education among the Navajos, enculturation appears to be continuing at such a pace that before Navajo psychologists are produced to devise Navajo tests, their function will be lost; that is, before long the younger generation of Navajos will be so familiar with "Anglo" society and with English that the test standardized on a cross-section of Americans will be appropriate for the Navajo population. In the meantime, it must not be concluded that because an ethnic groups does better on a performance than on a verbal test in a foreign language and because it can not demonstrate verbal abilities in a second language, it is inferior in certain psychological functions such as generalizing and reasoning.

"Thrusting" People into a Foreign Environment

A question common during action programs with traditional cultures arose in the context of vocationally rehabilitating Navajos: Is the Navajo Rehabilitation Project jerking Navajos out of an environment where they have made adequate adjustment and thrusting them into an environment where disquieting changes are demanded of them, and, thus, robbing them of their rights as people?

In a sense this question touches reality. It is possible that to some extent the aims of the Project were antithetical to the interests and the desires of some clients. The Project staff may have participated in influencing some people to leave an environment where they had relative security, were emotionally attached to the family and to the land, gained some recognition, and were treated as equals. The new environment was often distant from home, a foreign and sometimes hostile place. They sometimes felt the sting of prejudice; they were illequipped to deal with many of the day to day problems of living. Some found little opportunity for success (if there is such a term in their traditional social environment). When some of the clients rented homes little was added in the way of physical comforts; if they were, they had to be paid for on the presentation of a bill. Perhaps, the new environment gave little opportunity for or even detracted from usual ways of spending pleasurable time.

On the other hand, there is another side to this reality. Before the Navajo Rehabilitation Project came into being, many disabled Navajos had contact with "Anglo" society. They had attended public and Bureau of Indian Affairs schools; a few graduated from college. This "new way of life" may have met some of their needs. Because many of the traditional ways of attaining gratification are gone, even some traditional Navajos are dissatisfied with Reservation life. To successfully pursue traditional ways of life, the Reservation has become overcrowded. Hunting in most places is futile. It was replaced by a grazing economy centuries ago, and now, the Reservation is over-grazed. For the Navajos served, the Project may have been an avenue of personal, social, and economic escape.

Apropos, these issues, there are implications to be drawn from the Project experience. While differences of opinion arose among Project and staff and referral personnel as to whether the Project fulfilled the general "basic needs" of disabled Navajo people, one solid implication can be drawn from Project experience; namely, Navajos, even disabled Navajos, can not be stereotyped; they are not a homogeneous unit with universal, identical needs and desires. There is no question that when an individual desires rehabilitation services, the services should be offered. Such services can only be offered in ways consistent with the traditions, attitudes, and culture of a rehabilitation staff. Nonetheless, if a person does not wish these services, if he sees them as interferring with his traditional way of life, it is not the responsibility of vocational rehabilitation counselors to dissuade him from his "chosen" way of life.

The Problem of Prejudice

The Navajo Rehabilitation Project staff has seen prejudice expressed by residents of the region against Indians, but the staff has also seen as bitter prejudice expressed by the Navajos against non-Navajos. Destroying the vestiges of discrimination and prejudice, and granting equal educational and equal job opportunities are as important for success of disabled Navajos as they are for success of non-disabled Navajos and other underprivileged ethnic groups.

The Lack of Education and Training for Jobs Among the Navajos

The average education of Navajo Rehabilitation Project clients was far below the national average. More striking than years completed in school, however, is the actual achievement level of the client group. It is generally far below the national average. Thus, Navajos are more poorly prepared for vocations than others. They need more training for job placement and vocational success than the actual number of grades in school indicate. Part of the educational disadvantage among Navajos is an incompatible cultural, social and linguistic background at school entry, and these incompatible forces continue to influence Navajo youth as they progress in school. Many attend schools which for a number of reasons do not meet their life needs. Thus, Navajo youth lack education and training for the American job market; at the same time, most communities provide no adult education. This is true of one of the largest school districts on the border of the Reservation, Flagstaff.

Implications on Drinking Problems

Drinking was disproportionally a social problem in the housing, evaluative, training, placement, and employment phases of the Navajo Rehabilitation Project. Some Navajo Rehabilitation Project and Preparatory Training Project clients could not function effectively following drinking bouts. A number were arrested. For the Navajo Rehabilitation Project clients who had an identifiable drinking problem, an Antabuse program was provided. In fact, for several clients, accepting the Antabuse program was made a condition for continuing to receive vocational rehabilitation services. For several case histories of clients with drinking problems see Gaspari (1967, Monograph Number 7, Appendix A), Avallone (1967, Monograph Number 3, Appendix A), and Kelly (1967, Monograph Number 2, Chapter Three). Procedures used in the drinking treatment program were taken from the Gallup Community Indian Problem Drinker Project which has, also, in many of its facets been a model for the Office of Navajo Economic Opportunity Tribal Program for Problem Drinkers. The Winslow and Tuba City Public Health Service Hospitals personnel cooperated effectively in the medical aspects of the development of such a program. A survey of Indian tribes in the United States indicates that problem drinking among them is prevalent. An Antabuse treatment program may effectively be used with these and other groups where drinking interferes with vocational rehabilitation.

CHAPTER VI

SUMMARY

Historical Background

The Navajo Reservation is the largest Reservation in the United States and the topography and climate have had an impact on Navajo history and culture. There are over one hundred thousand Navajos, many times the number a century ago. This rapid population increase has, along with vestigages of traditional economic organization, created a shortage of land making pastoral agricultural livelihood impossible for the majority of Navajos; but, many maintain their "traditional" way of life. In meeting Navajo economic, education, and social needs, one needs an understanding of the extended family, the outfit, the clan, and the recent organization of the Navajo Tribe as a social and political unit. Tribal government actions are still subject to Bureau of Indian Affairs veto.

The economy is more wage than herding and farming. Geographic, economic, and social conditions, Navajo work-attitudes and economic values contribute to great underemployment. Some religious attitudes (as perceived by "Anglos") interferewith the development of concepts of economic and social reliability.

Determining the accurate number of disabled persons is difficult, but the proportion of disabled persons is probably greater on the Reservation than in the general population of the United States.

Rehabilitation Efforts Before the Navajo Rehabilitation Project

Over a five-year period, 1957-1962, a total of thirty-three Navajo clients were served and the majority of these were not successfully rehabilitated. Therefore, the local Northern Arizona Office of the Division of Vocational Rehabilitation and the Northern Arizona Vocational Rehabilitation Advisory Committee laid the groundwork for the Navajo Rehabilitation Project. The Project was funded and housed in 1963 on what was then the Arizona State College campus.

Relevant Literature

The literature indicates that Navajos in some ways may be compared to the people of Appalachia. A number of projects in the United States are attacking the problems of the culturally different and the economically and educationally deprived. One project in Montana recently completed and another current project in Alaska were designed to vocationally rehabilitate members of native populations in these states. The testing of minority groups, briefly reviewed, reveals that there are no ready-made tests that can be automatically applied and uncritically applied to disabled Navajos.

Navajo Rehabilitation Project Program

There were three primary functions of the Project, (1) to develop evaluation techniques and procedures; (2) to demonstrate procedures for coordinating and involving agencies in Northern Arizona; and (3) to research the data in vocationally rehabilitating disabled Navajos. Medical aspects of client care were provided by the United States Public Health Service. Client transportation was provided by the State Division of Vocational Rehabilitation, Bureau of Indian Affairs, and by the Navajo Rehabilitation Project. Maintenance was funded through the state Division of Vocational Rehabilitation, and family members of the client were served by the county welfare departments. Housing and dining were arranged on the Northern Arizona University campus. In order to evaluate, intake, orientation, and social services had to be provided. The evaluation areas included psychological, pre-vocational, and educational. The increase in numbers of vocational rehabilitation clients created the demand for placement services. The Project staff worked closely with the Northern Arizona Office of the Arizona Division of Vocational Rehabilitation and often helped clients arrange through county welfare offices for aid to the dependent children of clients.

Methodology

In an action-research project, service effectiveness is difficult to determine. While there were other factors operating during the period of the Project to increase the number of vocationally placed disabled Navajos, it is doubtful that this increase could have occurred without the Navajo Rehabilitation Project or some other organization performing similar services.

Representativeness of the Population

Intake services were rendered to 258 disabled Navajos and 118 completed enough of the program to provide some evaluation. The sample was probably representative of the total disabled Navajo population but not representative of the total Navajo population.

The disabled Navajo clients were usually single males between ages 20 and 25 with a total range of 16 to 59. Most came from families with five to ten siblings. Eighty-eight of those evaluated were males and 30 were females. Many types of disability were represented in the population. For many of the clients the Project represented the end of a series of attempts at rehabilitation.

Methodological Problems

English as a second language and a traditional culture much different from Western European were two important factors limiting the validity of the psychological tests. While some of the difficulties presented in measurement can be overcome by applying effective clinical rather than purely actuarial techniques, tests vary in meaning with degree of enculturation of the individual. There was no control group, but there were attempts to compare the disabled Navajos with two other projects serving Navajos. Limitations in research training of some staff members and the service demands of the Project sometimes interferred with objective data gathering.

Navajo Rehabilitation Project Outcomes and Effectiveness

Some of the outcomes of the Project efforts can not be quantitatively appraised. The anthropologist performed the service function of advising the staff on Navajo culture and social life. However, Project data was used by him to study Navajo attitudes and reactions to the disabled. The results of this study are reported in Kelly (1967, Monograph 2).

The experience in the Intake service areas of the Project indicates that if disabled Navajos are to be recruited for rehabilitation, much individual contact is needed with the prospective client, his family, and referral sources. To offer in Northern Arizona effective intake service, a professional person must devote full time to individual contact, correspondence, and follow-up efforts. It was almost impossible to recruit a group of Navajos so that they could all commence on the same day and go through the intake services as a group.

Non-quantitative observations were made in counseling Navajos. English as a second language and other cultural differences tended to cause great difficulty in communicating with Navajos. The counselor experienced many broken appointments. He was often viewed as an agent for solving immediate practical problems and as an authority offering rewards and meting out punishments. It took longer to establish rapport. A positive transference was difficult to establish. The verbalized psychodynamic content of the counseling interview was often superficial. Both counselor and counselee became frustrated by social, economic, and educational obstacles to positive outcomes. However, when cultural and personality differences were anticipated and accepted and when stereotyping was avoided, constructive, warm, satisfying counseling relationships developed.

In selecting appropriate subtests and whole tests, a "shotgun" approach was used. The general ability tests were selected through direct empirical considerations and through a construct validity approach using factor analysis. The general ability battery was reduced to the Wechsler Adult Intelligence Scale, the Revised Army Beta, and the Raven.

Because of its broad use in the labor market, the General Aptitude Test Battery was added. In factor analyzing the Wechsler, the Revised Army Beta and the Raven test, four factors were found which contributed 99.99 per cent of the total variance. The Navajo Rehabilitation Project clients scored significantly below the Wechsler standardization population. Their mean Verbal I.Q. was 74, Performance, 88, and Full Scale 78. The discriminate analysis technique was used to determine whether the three finally selected tests could be used effectively in predicting services outcome. The tests were ineffective in predicting the percentage of time worked, but were highly predictive for the skill of job and hourly wage. However, the highly predictive characteristics of the tests were spurious. Navajo Rehabilitation Project clients did more poorly than another group of non-disabled Navajos who were participating in a project at Northern Arizona University. Tests given to Navajos but standardized on other populations should be cautiously interpreted.

The educational evaluation results showed a Wechsler Adult Intelligence Scale correlation of .36 to .73 with actual years of formal education and the Digit Symbol and the Block Design also correlated positively with years in school. A correlation of .76 was found between years of formal education and achievement scores on the Iowa Tests of Basic Skills. A number of positive correlations were found between both verbal and performance intelligence scores and grade placement on the Iowa Tests of Basic Skills. Thus it appears that the intelligence tests to a large degree are measuring learning. There were significant correlations between intelligence measures and gains in achievement while in the educational evaluation process. However, gains in the total language achievement area correlated negatively with some of the intelligence measures. Most clients operated scholastically several grade levels below their actual grade completed in school.

Some of the more frequent problems of Navajo clients served by the Residence Guidance Supervisor were their misunderstanding of the evaluation process, homesickness, intemperate use of alcohol, and English language handicap.

The results of Pre-Vocational Evaluation Laboratory administration of several widely used tests indicated that the Navajo Rehabilitation Project clients performed more slowly than the standardization population. Despite this generalization, on the O'Connor Finger Dexterity Test Navajo clients were faster than the standardization population. Pre-Vocational Laboratory observation also indicated that disabled Navajo clients usually required a longer evaluation period than other rehabilitation clients. More time was required because of client attitudes and cultural differences. Most usual interests displayed in the Laboratory were artistic and manipulative tasks. While this observation is consistent with prevalent stereotypes, it is also consistent with the highest average subtest score made by Navajos on the Wechsler Adult Intelligence Scale. They performed better on the Block Design subtest than any other. If interpretations of abilities were made cautiously and if the staff were knowledgeable of Navajo culture, many tasks used successfully in the Pre-Vocational Laboratory with other rehabilitation clients could, also, be used with Navajos.

After completing evaluation, 92 of the 118 evaluated clients were placed in training or on jobs. If clients who were classified non-feasible are excluded, the vocational rehabilitation success percentage was between 65 and 70. Thus, the Navajo Rehabilitation Project success ratio compares favorably with the Arizona and national averages. While there is an apparent tendency for both wages and skills to correlate with length of employment, the chi square significance tests of these relationships did not prove to be statistically significant. The success ratio of women clients was much higher than that of men clients.

In summary, as determined by the original purposes, the Navajo Rehabilitation Project was generally effective.

CHAPTER VII

RECOMMENDATIONS

Future Cross-Cultural Projects

Future demonstration projects serving different ethnic groups provide a useful setting for cross-cultural research. If the observer is also a server of the people studied, he will probably learn much about their lives otherwise unavailable. He knows his informant in ways that usual ethnological data gathering does not permit. Therefore, in the future, when demonstration projects provide the opportunity, more sociological, psychological, and ethnological research functions should be included in the proposal (Henderson, 1967).

A Coordinator of Inter-Agency Referrals and Services

The conditions of the Reservation area have been explained clearly enough to demonstrate need for the employment of a full time person to coordinate all inter-agency vocational rehabilitation services in Northern Arizona. He should concentrate on the vocational rehabilitation problems of minority group members. The referral of and service to rehabilitation clients will never be effective in this vast ethnically differentiated community unless this coordination function is a full time professional responsibility.

Further Test Validation

The statistical validation of the tests given the disabled Navajo Rehabilitation Project clients provides evidence that a battery of tests can prove effective in identifying abilities and predicting success in a number of vocations. However, the tentative findings of the Project should be cross-validated on Navajos and other Indians, and perhaps, other ethnic groups. Until such cross-validation, caution should be used in applying the finally selected battery of tests. Project validation studies suggest the final battery of general ability tests, at least with Navajos, have some element of cultural fairness. The effective tests stress non-language ability. There is some possibility that these tests could be useful in evaluating other Indians and other ethnic groups. It is strongly recommended that a follow-up study be made to determine the effectiveness of this test battery with non-Navajo groups along with a cross-validating study of the battery with other disabled and non-disabled Navajos.

In addition to cross-validation, further test standardization is needed. The former Director of the Navajo Rehabilitation Project is now directing another project funded by the Higher Education Act to standardize a number of widely used tests on different ethnic groups of the Southwest.

Need for Residence Facilities

The extensive area demands that an adequate residence facility or facilities be provided for people who are in need of vocational rehabilitation evaluation and other related services. Such a facility is needed to serve adequately Navajos and other groups living at some distance from the Rehabilitation Center. Had not residential facilities been provided, the Navajo Rehabilitation Project could have served few clients effectively. This need became so apparent in the formulative stages of the Navajo Rehabilitation Project that the recommendations made here have been partially accomplished by the Rehabilitation Center. The Center is now providing residential facilities to clients who reside out of the Flagstaff area, but the facilities are temporary and in some ways unreliable and inadequate. There is an urgent need for some permanent realistically financed residential facility in Flagstaff.

Education Programs

An education program offering information and techniques necessary for adapting to an urban work situation needs to be developed for Indians. Many Navajos need basic education, pre-vocational education and job training in order to prepare them adequately for any kind of work. Indians need an education which prepares them for varied vocational pursuits and for technical and professional occupations. Indians need to create a greater demand for their services in the non-Indian as well as Indian communities. Their education must include effective instruction in English so that Navajos become as proficient as non-Indians in speaking and writing English.

This recommendation has been partially carried out by the Rehabilitation Center in the development of a Pre-Vocational Education Program in which culturally and educationally disadvantaged people are offered education which will make up for what they have failed to achieve in the usual school. This program needs extending and Flagstaff and other communities on and off the Reservation need to develop similar programs. In addition, most Northern Arizona communities need to expand present adult education curricula. Furthermore, the curricula needs and follow-up information gaps demand demonstration and research projects on the education of minority ethnic groups.

Problem Drinker Program

The Antabuse program for the treatment of problem drinkers was effective enough with a number of Navajo Rehabilitation Project clients to recommend continuation. The program as commenced by the Project can continue with the cooperation of the Rehabilitation Center and the Winslow and Tuba City Public Health Service Hospitals. Because in many instances the major obstacle to regular Indian employment is alcoholism, a realistic program for the treatment of problem drinkers while they are in evaluation, while they are in training, and while they are on the job could be an effective part of any vocational rehabilitation project serving problem drinkers.

Community Relations Program

Community educational and organizational programs need to be developed in Northern Arizona to counteract the stereotypes prevelant in the non-Indian and Indian communities. This program needs to penetrate the educational institutions, the business institutions and the general public. The Navajo Tribal Council could help form an inter-ethnic organization to foster better understanding by Navajos of the surrounding people and communities; and on the other hand, foster a better understanding by non-Navajos of the Navajo people, Reservation, and society.

Some of the lack of present understanding will be overcome in the already established formal education channels through more complete education of an increasing number of Indians and a more advanced, enlightened educational environment for the non-Indian community. However, this enlightened understanding can be consciously fostered by organization efforts of the political, social, and economic leaders of all of the communities. In fact, the development of community and intercommunity organizations and centers for fostering such understanding should be a worthwhile federally financed research and demonstration Project. Unlike the segregated Gallup Indian Community Center, the community centers recommended here should be integrated. They should facilitate interethnic communication, rather than to further isolate the already segregated communities.

A Study for Better Understanding of Vocational Success

Little is understood about the vocational goals of Navajos and other Indian groups. A study needs to be made of the attitudes of different ethnic groups towards vocations and success. The study should look for the relationship of these attitudes and success as defined by the different ethnic groups. Such a project should provide concepts and data for developing an educational program which would provide these groups the education to achieve selected life aims.

An Economic Study is Needed

A study needs to be made of the level of living of Navajos on the Reservation and in the areas surrounding the Reservation. The employment problems which Navajos face in the communities surrounding the Reservation, also, need study. Project personnel have seen clients affected by these problems. While the Urbanization Study which grew out of the Navajo Rehabilitation Project offered some information about Indians in Arizona towns, a wider all-inclusive project needs to be devised and funded.

Facilitate the Employment of Navajos

Attempts need to be made to facilitate the employment of Navajos and other Indians. Indians must command wages when they leave the Reservation which make it possible for them to survive off the Reservation. To be effective a state minimum, as high as the federal minimum, wage needs enactment.

With unskilled wages, adequate low-cost urban housing is a particularly crucial need in the rehabilitation of disabled Navajos. While living conditions are in general extremely rigorous on the Reservation, housing is often free. It may take effort to cut wood for heat and haul water, but on the Reservation housing is a very small proportion of the total cost of living. Therefore, readily available and adequate low-cost housing is essential in the towns bordering the Reservation.

BIBLIOGRAPHY

Aberle, D. The Peyote Religion Among the Navajo. Chicago: Aldine, 1966.

Albert, E. The Classification of Values: A Method and Illustration. American Anthropologist, 1956, 58, 221-248.

Anastasi, Anne and Foley, J.P. Differential Psychology. New York: MacMillan, 1963.

Anderson, T.W. Introduction to Multivariate Statistical Analysis. New York: John Wiley, 1958.

Avallone, V. Intake Procedures and Problems. Navajo Rehabilitation Project Technical Report No. 3, Flagstaff: Northern Arizona University, 1967.

Carlson, H.B. and Henderson, N.B. The Intelligence of American Children of Mexican Parentage. The Journal of Abnormal and Social Psychology. 1950, 45, 544-551.

Casto, L.T. Evaluation with the Culturally Different. American Personnel and Guidance Association Convention, Washington, 1966.

Casto, L.T. The Process of Validating a Test Battery for Navajo Rehabilitation Clients. Navajo Rehabilitation Project Technical Report No. 5, Flagstaff: Northern Arizona University, 1967.

Cook, A. and Gaspari Carole. Navajo Rehabilitation Project Pre-Vocational Laboratory. Navajo Rehabilitation Project Technical Report No. 8, Flagstaff: Northern Arizona University, 1967.

Cooper, W.M. Training the Hard-Core Unemployed: A Demonstration and Research Project. Norfolk: Virginia State College, 1964.

Education Test Bureau. *Minnesota Rate of Manipulation Test*. Minneapolis: Educational Publishers, 1957.

Gaffney, J. Michigan Catholic Conference Job Training Center *Progress Report*, Lansing, 1965.

Gaspari, Carole. *Education as a Process of Vocational Evaluation*. Navajo Rehabilitation Project Technical Report No. 6, Flagstaff: Northern Arizona University, 1967.

Gaspari, Carole. *Social Evaluation of Navajo Rehabilitation Clients*. Navajo Rehabilitation Project Technical Report No. 7, Flagstaff: Northern Arizona University, 1967.

Guilford, J.P. *Fundamental Statistics in Psychology and Education*. New York: McGraw-Hill, 1965.

Henderson, N.B. *Cross-Cultural Action-Research: Some Limi*tations, Advantages, and Problems. *Journal of Social Psychology*, in press.

Henderson, N.B. and Avallone, V. *Problems in Counseling Navajo Rehabilitation Clients*. Navajo Rehabilitation Project Technical Report No. 4, Flagstaff: Northern Arizona University, 1967.

Hester, J. J. Early Navajo Migrations and Acculturations in the Southwest. *Papers in Anthropology No. 6*, Santa Fe: Museum of New Mexico, 1962.

Hogstedt, C. The Hapless Lapp. *Atlas*. Jan., 1967, 13, 49-50.

Højlund, N. The Miserable Eskimo. *Atlas*. 1967, 13, 52-53.

Jewish Employment and Vocational Service. *Youth Training Project - Progress Report*. St. Louis: Jewish Employment and Vocational Service, 1965.

Johnson, M. Vocationally Handicapped Montana Indians: A Demonstration and Research Project. Havre: Northern Montana College, 1966.

Jones, A.B. Manpower Improvement Through Community Effort. Progress Report No. 2, Durham : North Carolina Fund, 1966.

Kelly R. and Cramer, J. American Indians in Small Cities: A Survey of Urban Acculturation in Two Northern Arizona Communities. Rehabilitation Monograph No. 1. Flagstaff: Department of Rehabilitation, Northern Arizona University, 1966.

Kelly R. Disabled Navajo Indians and Rehabilitation: An Anthropological Overview. Navajo Rehabilitation Project Technical Report No. 2, Flagstaff: Northern Arizona University, 1967.

Klineberg, O. Negro-White Differences in Intelligence Test Performance: A New Look at an Old Problem. American Psychologist. 1963, 18, 198-203.

Klineberg, O. Race Differences. New York: Harper, 1935.

Kluckhohn, C. and Leighton, Dorothea. The Navajo. Cambridge: Harvard University, 1944.

Kluckhohn, C. and Leighton, Dorothea. The Navajo. Cambridge: Harvard University, 1958.

Langmuir, C. Personnel Tests for Industry. New York: The Psychological Corporation, 1954.

Leighton, Dorothea and Kluckhohn, C. Children of the People. Cambridge: Harvard University, 1947.

Levy, J.E. Community Organization of the Western Navajo. American Anthropolcgist, 1962, 34, 781-801.

Lewis, O. The Children of Sanchez. New York: Random House, 1961.

McDonald, J. *Manpower Improvement Through Community Effort. Progress Report No. 2.* Durham : North Carolina Fund, 1965.

O'Connor, J. *O'Connor Finger Dexterity Test.* Chicago: Stoelting, 1926.

Project Staff. Alaska Native Medical Center, *Rehabilitation Project Progress Report*, 1966.

Ryan, I. *A New Attack Upon Rural Poverty.* Marquette: Northern Michigan University, 1965.

Sanchez, A. *Placement Services, Procedures, and Results of the Navajo Rehabilitation Project.* Navajo Rehabilitation Project Technical Report No. 9, Flagstaff: Northern Arizona University, 1967.

Shepardson, Mary. *Navajo Ways in Government: A Study in Political Process.* American Anthropological Association, Memoir No 96, Wisconsin, 1963.

Thompson, Hildegard (ed). *Education for Cross-Cultural Enrichment.* Washington: Bureau of Indian Affairs, 1964.

Underhill, Ruth. *The Navajos.* Norman: University of Oklahoma, 1956.

United States Department of Health, Education, and Welfare. *Mental Health In Appalachia: Problems and Prospects in the Central Highlands.* Washington: United States Government, 1964.

United States Department of Health, Education, and Welfare. Vocational Rehabilitation Administration - Reprint from *Annual Report* of. Washington: United States Government, 1966.

Weller, J. Yesterday's People: Life in Comtemporary Appalachia. Lexington: University of Kentucky, 1965.

Work Group for the Psychological Study of Social Issues. Guidelines for the Testing of Minority Group Children. Journal of Social Issues. 1964, 20, 2.

Young, R. The Navajo Yearbook VII. Window Rock: Navajo Agency, 1958.

Young, R. The Navajo Yearbook VIII. Window Rock: Navajo Agency, 1961.

Zintz, M. V. Problems of Classroom Adjustment of Indian Children in Public Schools. Education of the Disadvantaged. New York: Holt, Rinehart, and Winston, 1967, 88-100.

APPENDIX A:

REVISED NAVAJO TEST BATTERY

I. GENERAL ABILITY
- ( ) Kent E.G.Y.
- ( ) Raven Progressive Matrices
- ( ) Arthur Point Scale of Performance
- ( ) Columbia Mental Maturity Scale
- ( ) Ammons Full Range Picture Vocabulary
- ( ) Revised Army Beta
- ( ) Goodenough Draw-a-Man
- ( ) Wechsler (WAIS)
- ( ) Ammons Quick Test
- ( ) Kahn Experimental Test of Intelligence

II. INTEREST

Group I (Readers)
- ( ) Strong Verbal Intelligence Blank
- ( ) Kuder Personal Preference Record

Group II (non-readers)
- ( ) California Picture Interest Inventory
- ( ) Geist Picture Interest Inventory
- ( ) Thurstone Interest

III. APTITUDE

Group I (Readers)
- ( ) D.A.T.
- ( ) GATB

Group II (non-readers)
- ( ) Primary Mental Abilities
- ( ) Verbal Meaning
- ( ) Space
- ( ) Reasoning
- ( ) Number
- ( ) Word Fluency

IV. ACHIEVEMENT
- ( ) Gates Reading Survey
- ( ) Wide Range Achievement Test

V. SPECIAL ABILITY
- ( ) Crawford Small Parts
- ( ) Bennett Hand Tool
- ( ) Stromberg Dexterity

VI. PERSONALITY

Group I (Readers)
- ( ) Minnesota Multiphasic Personality Inventory
- ( ) Edwards Personal Preference Schedule

Group II (non-readers)
- ( ) I.E.S.
- ( ) Bender Gestalt

APPENDIX B:
Intercorrelation Matrix - General Ability Tests
Navajo Rehabilitation Project

Test	2	3	4	5	6	7	8	9	10	11
1. Kent E.G.Y.	.54	.65	.38	.64	.56	.74	.50	.70	.46	.50
2. Army Beta		.67	.45	.69	.78	.57	.84	.82	.61	.54
3. Raven Progressive Matrices			.28	.65	.57	.69	.67	.75	.53	.49
4. Draw-a-Person				.43	.54	.29	.51	.43	.46	.52
5. Columbia					.83	.52	.67	.67	.45	.62
6. Leiter International						.56	.80	.78	.50	.70
7. WAIS Verbal							.51	.83	.46	.51
8. WAIS Performance								.90	.40	.58
9. WAIS Full Scale									.54	.63
10. Arthur Point Scale without Healy										.46
11. Healy II										

N = Varies: approximately 45

5

APPENDIX C:
TABLE I

INTERCOORELATION MATRIX - WAIS
REVISED ARMY BETA
RAVEN PROGRESSIVE MATRIX

N = 90

	2	3	4	5
1. WAIS - Verbal	.55	.90	.61	.63
2. WAIS - Performance		.82	.79	.67
3. WAIS - Full Scale			.73	.70
4. Beta - Total				.58
5. Raven				

APPENDIX C:
TABLE II
INTERCORRELATION MATRIX - WAIS SUBTESTS
NAVAJO REHABILITATION PROJECT
N = 90

Subtest	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Information	.68	.66	.66	.61	.80	.40	.50	.38	.56	.26	.92	.50	.81
2. Comprehension		.61	.47	.46	.63	.28	.43	.34	.43	.26	.77	.43	.69
3. Arithmetic			.45	.48	.57	.26	.42	.46	.42	.29	.76	.45	.70
4. Similarities				.36	.58	.29	.39	.38	.44	.22	.74	.42	.67
5. Digit Span					.66	.54	.53	.40	.52	.41	.71	.58	.74
6. Vocabulary						.48	.40	.32	.48	.17	.88	.43	.75
7. Digit Symbol							.57	.48	.58	.47	.42	.75	.62
8. Picture Completion								.56	.61	.51	.54	.78	.69
9. Block Design									.55	.68	.46	.85	.70
10. Picture Arrangement										.40	.56	.76	.72
11. Object Assembly											.31	.80	.58
12. Verbal Scale												.55	.90
13. Performance Scale													.82
14. Full Scale													

APPENDIX C:
TABLE III

INTERCORRELATION MATRIX - ARMY BETA SUBTESTS
NAVAJO REHABILITATION PROJECT

N = 90

	Subtests	2	3	4	5	6	7
1.	Maze	.47	.55	.43	.50	.61	.70
2.	Symbol-Digit Subst.		.55	.27	.49	.72	.75
3.	What is Wrong? Pictures			.47	.63	.66	.84
4.	Spatial Relations				.49	.50	.65
5.	Picture Completion					.61	.75
6.	Checking Similarities between Pairs						.86
7.	Total						

APPENDIX D:
TABLE I

MEAN SCORES AND STANDARD DEVIATIONS ON THE GENERAL APTITUDE TEST BATTERY

Test GATB	N	Mean Scores NRP	 Std.Pop.	Stand. Dev. NRP	 Std.Pop.	Extremes NRP	Mean Difference (t)	Significance Level
General Abil.	48	69.46	100	13.35	20	38-99	30.5 (15.2)	.01
Verbal	48	73.5	100	8.57	20	61-100	26.5 (20.7)	.01
Numerical	48	60.85	100	19.82	20	27-95	39.15 (13.5)	.01
Spatial	48	93.10	100	22.23	20	51-156	6.90 (2.2)	.05
Form Percep.	48	78.19	100	28.98	20	11-144	21.81 (5.16)	.01
Clerical	48	84.19	100	17.66	20	51-126	15.81 (6.12)	.01
Motor	49	70.73	100	28.49	20	2-120	29.27 (7.13)	.01
Finger Dexter.	42	69.79	100	23.41	20	12-108	30.21 (8.16)	.01
Manual Dexter.	46	68.22	100	29.94	20	1-146	31.78 (7.14)	.01

APPENDIX D:
TABLE II

MEAN SCORES AND STANDARD DEVIATIONS ON THE ARMY BETA

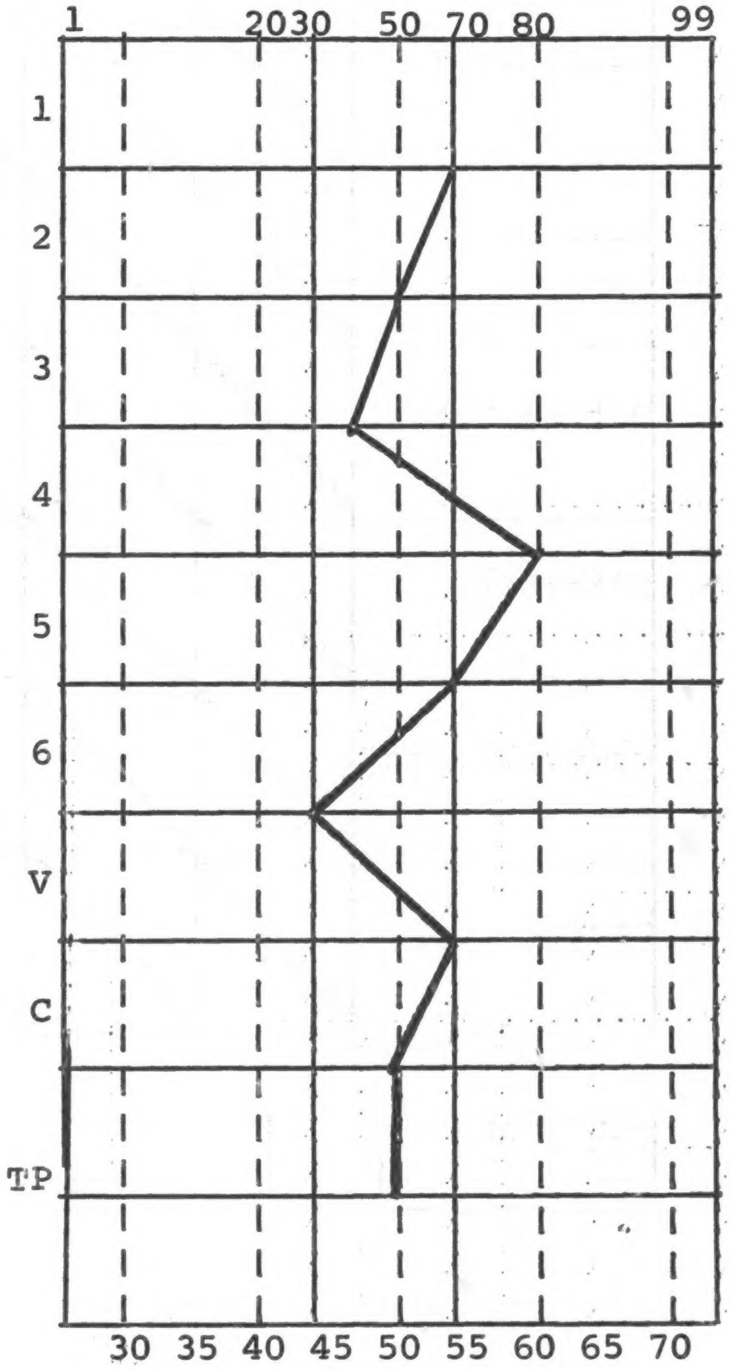
TEST BETA	N	Mean Scores		Standard Deviations		Extremes	Difference	Signif.
		*	**	*	**			
MAZE	94	6.8	7	1.7		0-10		
DIGIT SYMBOL	93	17.9	18-20	7.4		0-36		
WHAT IS WRONG	94	10.1	11	3.6		1-18		
SPATIAL RELATIONS	94	8.3	10	3.2		1-17		
PICTURE COMPLET.	94	12.2	14	3.9		1-20		
SIMILARITIES	94	14.4	17-18	4.6		0-24		
TOTAL	94	IQ=88 54.3	IQ=100	13.9	15	14-85	12(t=8.6)	.01
RAVEN TOTAL	94	31.5	40-44	11.9		4-57	(t=9.0)	.01

*Navajo Rehabilitation Project Population
**Standardization Population

APPENDIX D:
FIGURE I

AVERAGE SCORES FOR NAVAJO REHABILITATION PROJECT CLIENTS ON THE PICTURE INTEREST INVENTORY

PART	component	client's score	percentile rank
FIELDS OF INTEREST	1. Interpersonal	19.4	70
	2. Natural	26.1	50
	3. Mechanical	23.2	40
	4. Business	33.0	80
	5. Esthetic	21.3	70
	6. Scientific	16.2	30
SUPPLEMENTAL SCALES	Verbal	11.8	70
	Computational	13.6	50
	Time Perspective	8.2	50



APPENDIX D: TABLE III

Correlation Matrix for California Picture Interest Inventory Versus the Geist Picture Interest Inventory

CPII GEIST	Inter-personal	Natural	Mechan-ical	Business	Verbal	Computa-tional
Mechanical	xx -.55 26	x .43 26	xx .58 26		xx -.73 26	
Science	x -.45 36					
Out of Doors		xx .59 26		xx -.59 26	xx -.55 26	xx .55 26
Literary					xx .50 26	x .49 26
Computational		xx -.50 26				
Drama				x -.43 26		

.55 = Rho

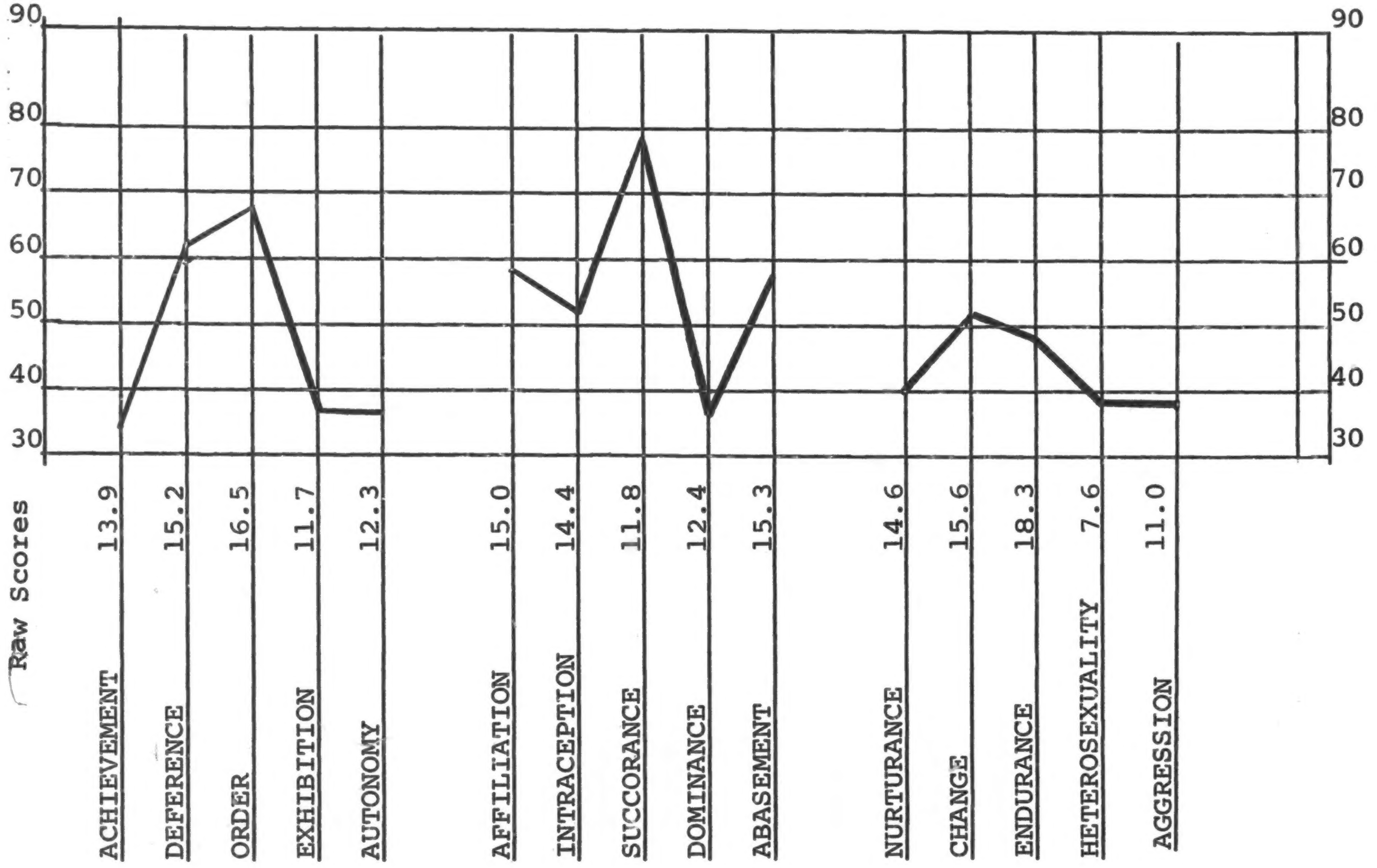
26 =N

x = .05 significance level

xx = .01 significance level

APPENDIX E:
FIGURE I

AVERAGE SCORES OF THE NAVAJO REHABILITATION PROJECT CLIENTS ON THE EDWARDS PERSONAL PREFERENCE SCHEDULE



APPENDIX E: TABLE I

SIGNIFICANT CORRELATIONS BETWEEN MMPI AND EDWARDS SCALES

MMPI	EDWARDS	rho	N	Sig
Hypochondriasis	- Achievement	-.29	44	.05
"	- Order	-.29	44	.05
"	- Succorance	.37	44	.05
"	- Endurance	-.33	44	.05
"	- Heterosexuality	.42	44	.01
Depression	- Succorance	.36	44	.05
"	- Heterosexuality	.30	44	.05
Psychop. Dev.	- Heterosexuality	.40	44	.01
M.F.	- Affiliation	.30	44	.05
" "	- Change	.31	44	.05
Paranoia	- Succorance	.29	44	.05
"	- Heterosexuality	.40	44	.01
Psychasthenia	- Achievement	-.31	44	.05
"	- Succorance	.56	44	.01
"	- Heterosexuality	.34	44	.05
Schizophrenia	- Succorance	.48	44	.01
"	- Heterosexuality	.39	44	.01
Manic	- Heterosexuality	.30	44	.05
Soc. Intro.	- Achievement	-.34	40	.05
"	- Succorance	.44	40	.01
Q	- Order	.45	33	.01
"	- Exhibition	.46	33	.01
"	- Intraception	.35	33	.05
"	- Dominance	.63	33	.01
"	- Agression	.34	33	.05
L	- Heterosexuality	.32	44	.05
F	- Dominance	.30	44	.05

APPENDIX E: TABLE II

INTERCORRELATION MATRIX FOR THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si	Q	L	F	K
Hs	xx .63 46	xx .60 46	xx .55 46	ns	x .28 46	xx .64 46	xx .67 46	x .28 46	ns	ns	x .34 46	x .36 46	x .35 46
D		xx .70 46	xx .54 46	ns	x .35 46	xx .63 46	xx .68 46	ns	x .37 42	ns	ns	xx .41 46	ns
Hy			xx .51 46	ns	x .31 46	xx .52 46	xx .51 46	ns	ns	ns	xx .37 46	xx .48 46	ns
Pd				ns	xx .58 46	xx .70 46	xx .70 46	xx .38 46	ns	ns	ns	xx .44 46	ns
Mf					ns	ns	ns	ns	ns	ns	ns	ns	ns
Pa						xx .50 46	xx .65 46	xx .45 46	ns	ns	ns	xx .62 46	ns
Pt							xx .87 46	xx .45 46	xx .40 42	ns	ns	xx .49 46	ns
Sc								xx .56 46	xx .46 42	ns	ns	xx .72 46	ns
Ma									ns	ns	ns	xx .53 46	ns
Si										ns	ns	ns	x -.37 42
Q										ns	ns	ns	ns
L													xx .68 46
F													ns

x = .05 significance level
xx = .01 significance level

rho
n